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Pepperdine University
Graduate School of Education and Psychology

HOMESCHOOL PARENTS' PERSPECTIVE OF THE LEARNING ENVIRONMENT:
A MULTIPLE-CASE STUDY OF HOMESCHOOL PARTNERSHIPS

A dissertation submitted in partial satisfaction
of the requirements for the degree of
Doctor of Education in Learning Technologies

by

Joseph Michael Sabol

May, 2018

Jack McManus, Ph.D. – Dissertation Chairperson

This dissertation, written by

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under the guidance of a Faculty Committee and approved by its members, has been submitted to and accepted by the Graduate Faculty in partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

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DEDICATION

This dissertation is dedicated to my wife, Elizabeth, my boys, Daniel and Nathan, my niece and nephew, Bob and Eva Marie, and my parents, Joe and Jill Sabol. Their unconditional love and steadfast support encouraged me throughout each phase of my doctoral journey.

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Last but not least, tremendous thanks are due to my friends and family for their powerful prayers, positive encouragement, and unwavering support. I love you all beyond measure!

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Maker Camp: Engaging Students with STEM Activities	2013

ABSTRACT

Homeschool families have the freedom to uniquely structure the learning environment to meet the needs of their children. Many homeschool parents increasingly rely on digital devices and the Internet to provide alternatives to traditional and private schools. Cooperatives (co-ops), charter school partnerships, virtual academies, online tutors, digitized instructional programs, and individualized curricula can be utilized to provide or supplement the learning environment. This research presents a multiple-case study exploring the variety of learning environments that homeschool parents utilize to teach their children. The participants in this research were homeschool parents who share teaching responsibilities with other homeschool parent educators, charter school organizations, or online instructional programs. In essence, the study examined the perceived effectiveness, efficiency, and efficacy of online, blended, and traditional face-to-face learning environments from the parents' perspective. Data collection involved the combined responses from an online survey and participant interviews with ten homeschool parents. Each of the parents shared teaching responsibilities with a homeschool cooperative, a charter school organization, or both. Profiles of each participant include demographic information, homeschooling style, and the rationale for homeschooling their children. Three main themes emerged from the analysis of the homeschool parents' perceptions: A Flexible Learning Environment Structure, Quality Time with Family, and Support from Like-Minded Others. The findings from this study can be utilized to advise future families of optimal practices for cultivating academic success and social development of the homeschooled child. The findings indicate homeschool parents perceive the academic and social learning environments as flexible and sufficient for their children's education. From the study participants' perspective, integrating technology into the homeschool structure positively impacted their children's mathematics and

literacy development. While partnering with homeschool cooperatives and charter schools, study participants were encouraged to continue educating their children, establishing close familial bonds, and providing opportunities for their children to interact with many people of different age-groups.

Chapter One: Study Introduction

“The home is mankind’s first and most basic school. Home-centered education is as old as civilization itself, commencing long before public schools were organized or even conceived.”

(Ballmann, 1995, p. 18)

Background and History

Homeschooling, the most dominant form of education throughout history, has recently been making a comeback as a revolutionary alternative to public schooling. The practice of homeschooling (i.e., home education, home-based education, or home-centered education) has experienced tremendous growth in the past thirty years. This increase is warranted as research shows homeschool students, on average, score significantly higher on achievement tests (Barwegen, Falciani, Putnam, Reamer, & Stair, 2004; Holder, 2001; Medlin, 1994; Ray, 2013; Rudner & Home School Defense, 1999) and are more successful in college than their public school counterparts (Ray, 1986, 1988, 1999, 2009, 2010, 2013).

Parents, in the modern homeschool family, delivers instruction primarily from their own home to uniquely meet the needs of their child. Technology can be integrated into the learning environment by accessing online instructional resources via virtual academies, tutorials, or other digitized supplemental programs.

One of the most powerful tools of homeschooling, cooperatives or co-ops, consists of a group of families who share social and academic resources (McReynolds, 2007; Topp, 2014). Co-ops organize to provide social interaction for the children, emotional support for the parents, opportunities to discuss curriculum choices and delivery, park day play-dates, and enriching field trip experiences. Homeschool co-ops meet at homes, libraries, churches, or community centers where an adult facilitates learning experiences for children of similar ability levels. Co-ops allow

children to learn from other home educators who may not be present in their own family unit.

Homeschool families also form charter school partnerships where instruction is delivered in part from public institutions and the remaining balance from the homeschool parents. Charter schools typically determine the curriculum, pacing guides, benchmarks, formative and summative assessments, and recordkeeping procedures. Guidelines established by charter school policies determine the distribution of instructional responsibilities shared between homeschool educators and charter school staff members.

Valery (2011) studied sixteen homeschool families who participated in a virtual community for a period of 15 weeks. It is noteworthy to mention that only five of the families completed the study. Educational resources were shared and families communicated via forum postings and blogs. Parents of younger elementary-age children preferred hands-on and face-to-face instruction. Parents of older children found online learning more appealing as it could potentially provide more resources for the sophisticated level of curriculum of middle and high school aged students.

The modern homeschooling movement in the United States has been fueled by justifiable parental concerns for: (a) regard for child safety at public institutions (Bielick, 2008; Lines, 2000; Ray, 1999), (b) desire to impart religious virtues and values (Collom, 2005; Kunzman, 2009; Marchant, 1993; Ray, 2013; Romanowski, 2006; Van Galen, 1987), (c) dissatisfaction with academic instruction (Ballmann, 1995; Bielick, 2008; Ray, 2002), and (d) interest in offering individual affordances via the Internet (Collins & Halverson, 2009; Meighan, 1997; Valery, 2011). Medlin (2000, 2013), Romanowski (2006), and McDowell (2000) also state students are sufficiently involved in a variety of experiences that positively develop their socialization skills. Studies indicate that students educated in a home-based environment are

achieving at equivalent levels, or higher, compared to their peers at public and private institutions (Kunzman, 2009; McDowell, 2000; Medlin, 2000, 2013; Ray, 1997, 2001, 2009; Smedley, 1992). Homeschooling, as a legitimate practice, appears to offer parents an alternative to raising, educating, and preparing their children to become successful citizens.

Given the current climate of United States public education, it is very probable that the homeschooling movement will continue to gain momentum. Ensuring students' safety in public schools seems unlikely despite improved security measures, the implementation of public policies, and intervention programs aimed at reducing gun violence (Keehn & Boyles, 2015; Shuffelton, 2015; Warnick, Kim, & Robinson, 2015), sexual assaults (Clinton-Sherrod et al., 2009; Finkelhor, 2009; Stein, 1996), and bullying (J. Brown, Aalsma, & Ott, 2013; Olweus, 1995; Swearer & Hymel, 2015). Parents will likely be receptive to educational alternatives where their children can develop academically and socially in a safe environment.

The Need for Research

In the past twenty years, homeschool literature has focused on academic and social outcomes of homeschooled students. The majority of the research has confirmed homeschooling as a legitimate alternative to public institutions. Homeschool students have consistently performed above, or at the same level, on standardized achievement tests compared to their public-schooled counterparts (Cardinale, 2013; Mayberry, Knowles, Ray, & Marlow, 1995; Medlin, 1994; Ray, 2004, 2009, 2010; Richman, Girtten, & Snyder, 1992; Rudner & Home School Defense, 1999). Studies also show that homeschoolers are socially well adjusted (Medlin, 2000) and acquire skills needed to become productive citizens (Ray, 2009). Scholars have also explored parental motivations for pulling their children out of traditional forms of education.

Current research on how homeschool families utilize cooperatives, charter school partnerships, and online instructional programs is limited. Lange (2013) and Topp (2014) have written books on how to start local homeschool co-ops. Doctoral dissertation case studies (Muldowney, 2011; Vaughan, 2003) investigate why parents choose to homeschool and join nearby co-ops for social and academic support. Tollefson (2007) provided an analysis of information shared by homeschool parents via online blogging. To date, the researcher has found no published research that informs parents on how to select a learning environment and use technology to best equip their children for academic & social success. Therefore, there is a need for additional research on how homeschool parents integrate technology into the learning environment and cultivate learning with support from charter schools and homeschool co-ops.

Statement of the Problem

New technological advances and tools have created opportunities for homeschool families to access a wide range of resources and to interact with virtual learning environments. These experiences may impact and empower parents as they prepare for and deliver instruction to their children. Furthermore, instructional strategies and curricular resources can easily be shared between individual homeschool families and other educational organizations. There is a gap in the literature with regard to how homeschool parents utilize technological affordances to effectively teach their children and share instructional responsibilities with homeschool co-ops and charter schools. Current research has been limited to parental motivations to homeschool (Hanna, 2012; Kunzman, 2009, Muldowney, 2011; Ray, 2001; Vaughan, 2003), benefits of homeschooling (Hurlbutt, 2010; Medlin, 2013; Murphy, 2014; Ray 2000; Romanowski, 2006), and how to start and sustain a homeschool co-op (Lange, 2013; Topp, 2014). To date, the researcher has found no published research that informs parents on how to select a learning

environment and use technology to best equip their children for academic & social success. Therefore, there is a need for additional research on the implementation of technology-based homeschool learning environments.

Many homeschool families share resources with other families via traditional homeschool co-ops, but are limited by geographical constraints. Hanna's (2012) findings indicate that networking with other homeschool families significantly increased in the United States from 1998 to 2008. During the same time frame, high percentages of homeschool families, from rural to urban communities, began downloading curricular materials from the Internet and enrolling in online courses to support their children's education. Expanding the co-op landscape to include asynchronous meetings and providing more opportunities for synchronous meetings may revolutionize the academic and social interactions for the modern homeschool movement.

Statement of the Purpose

The purpose of this case study was to explore a variety of learning environments and instructional partnerships that homeschool parents utilized to teach their children. Homeschool co-ops and charter schools share activities, resources, and strategies with homeschool parents that enrich the learning environment. The overall goal of the research was to explore parent perspectives regarding optimal participation in, and practices of, partnerships with homeschool co-ops and charter schools to cultivate academic and social success for their children.

Research Questions

Many homeschooling parents rely on technological devices and the Internet to provide alternatives to traditional and private school structures. The central guiding research question was: How do homeschool parents structure the learning environment to educate their children?

The sub-questions were:

1. What extent do computers and digital devices influence the learning environment?
2. How do homeschool parents cultivate and foster learning for their child?
3. What activities or resources do homeschool parents use to facilitate social development?
4. What activities or resources do homeschool parents use to facilitate academic development?
5. What extent did parents receive support from homeschool co-ops, charter school partnerships, and other community organizations?
6. How does the learning environment influence bonding between parents and children in homeschool families?

Study Design

This study employed a multiple-case study approach for the sake of understanding how charter schools and homeschool co-ops support homeschool parents and how parents cultivate academic and social success for their children. The case study design is an ideal approach when the inquiry focuses on *how* or *why* types of questions (Yin, 2014). The central question for this study asked *how* parents structure the learning environment to educate their children, so a case study model was appropriate. Stake (1995) affirms employing a case study when it is desirable to understand the particular qualities and the complex interactions of a phenomenon involving people and programs. Case study research is effective for gaining an in-depth understanding of an entity in its context and setting (Stake, 2006). This dissertation employed a multiple-case study approach that involved ten homeschool families as they partnered with a homeschool cooperative, a charter school, or both.

Researcher Positionality

The researcher has taught at two public middle schools and at a private university in Southern California for a combined total of more than twenty years. Partnering with families was an essential component for student success. The researcher consistently maintained efficient lines of communication so that parents could monitor their child's progress. While teaching at the university, the researcher established and cultivated online learning communities that aligned with Knowles' (1980, 1984) motivational strategies that connect adult learners with their prior experiences and focus attention on how mathematical problem-solving skills were relevant to their career.

For the past nine years, the researcher has served as the primary homeschool educator for his two boys. He has also collaborated with resource specialists and educators via partnerships with two Southern California charter school institutions. Conversing with both education specialists and homeschool parents has inspired the researcher to seek out alternative learning environments. The findings from this study will impact the researcher's practice of homeschooling and as an educational consultant. Overall, the researcher has positive inclinations that homeschool family partnerships are beneficial for learning. The homeschool literature has positively impacted the researcher professionally as a more effective educator, civically as a more productive citizen, and personally as a father with stronger relationships with his two sons.

Significance of the Study

Currently, many homeschoolers collaborate with charter schools and other homeschool families in their local, geographical communities for social and academic support. Although online curricular resources are routinely used to provide tutoring and instruction for students, scholarly work focused on how homeschool parents leverage and integrate technology into the

learning environment to support socialization and improve academic outcomes is scarce. There appears to be a lack of empirical evidence about the effectiveness of homeschool partnerships with charter schools and homeschool co-ops.

While the current body of homeschool research focuses on the child's academic development, social development, and the acquisition of values-related skills (Johnson, 2014; Mayberry, 1993; Ray, 2001), very little attention has been placed on the homeschool parents' perspective (Kerns, 2015). Parents' decision to homeschool is based on academic, religious, social reasons, as well as to provide an emotionally and physically safe environment for their children. However, not much is known about why homeschool parents continue practicing home-based education, how associated challenges are overcome, and what resources and strategies are used to network with other homeschool groups. More in-depth studies are needed to understand how homeschooling parents cultivate and nurture the learning environment for their children.

This study contributes to the literature by exploring parent perspectives towards using technology to enhance homeschool instruction and how to foster their children's learning. An analysis was utilized to inform homeschool scholars, advocates, and practitioners of strategies and affordances beneficial for homeschool learning environments. While homeschooling families are recognized as first adopters of computer technologies, little is known as to how homeschool co-ops and charter schools collaborate and cooperate with homeschool families. There are three variations of homeschool structures: a partnership where academic instruction and social development is shared by charter school staff members and homeschool parent educator; a co-op consisting of homeschool families who are typically located in close proximity to each other; and independent families who connect with others, at various degrees, via online platforms, learning management systems, and social networking webpages. Since the current

body of literature on homeschool co-ops is limited in scope, this case study will be useful for future homeschooling families. As more and more families choose to homeschool, these insights will be relevant and beneficial to the homeschool movement at large.

Operational Definitions

Homeschooling: The practice of educating children in a learning environment that is based in the home rather than a state-run public school or private school institution. Parents assume the primary responsibility for their children's education during traditional school hours (Ray, 2000).

Homeschool Cooperatives (co-ops): A group of homeschooling families that work together to share educational resources and responsibilities (Topp, 2014). Parents in the co-op typically are committed to the purpose of enriching their children's social and academic experiences.

Assumptions

The researcher made several assumptions over the duration of the study. First, and most important, is that the study participants would understand the interview questions and were willing to provide honest and truthful answers. Developing a sense of trust with the homeschool parents was crucial for the researcher to help the participants feel secure in sharing personal experiences involving their children. Study participants were reminded that their responses were confidential. Secondly, the researcher assumed the parents' perspectives accurately reflected the homeschool child's learning environment.

Delimitations and Limitations

There are countless variations of homeschool family structures, instructional resources, social networks, and child-parent relationships. Narrowing the sample size of the study to 10

families living in Southern California was a major limitation. Results from this investigation will be difficult to generalize to the larger homeschool population. Additionally, the time frame over which the study was proposed, February 2017 to March 2017, was not adequate to fully understand how the homeschooling parents use digital devices and partner with charter schools and homeschool co-ops to educate their children. Finally, the parents' viewpoints may not accurately reflect their children's actual academic and social outcomes. The researcher managed and organized his findings and conclusions systematically in Chapter Five to clearly communicate optimal practices and strategies for homeschool parents.

Organization of this Dissertation

This exploratory study of homeschool parent perspectives is divided into five chapters. Chapter One explains that the scarcity of homeschool co-op literature and suggests that more research is needed to support parents teaching their children and in selecting the optimal learning environment. A case study approach was conducted to identify how homeschool parents utilize technological tools to teach their children and share instructional responsibilities with charter schools and homeschool co-ops. Information collected and assessed from parent interviews was used to help understand the variety of landscapes of the homeschool learning environment. Chapter Two, the Review of the Literature, will identify current published literature on the modern homeschool movement, homeschool practices, and homeschool partnerships. Chapter Three will describe the methodology of the study that includes sampling techniques, data collection procedures, considerations for multiple sources of data, and proposed analysis strategies. Chapter Four will present the analysis of the results from the study. Chapter Five will offer a summary of the research, conclusions, and suggestions for future research.

Chapter Two: Conceptual Foundation

Ernesto Sirotli spent 7 years in Africa helping third world countries increase agricultural resources and reduce poverty. In *Ripples from the Zambezi*, Sirotli (1999) described his failed efforts as his Italian aid organization trained natives how to grow European produce without considering environmental factors. Sirotli and his colleagues were shocked with the Zambezi's apathy and disinterest towards producing their own agricultural resources until a pod of hippopotami emerged from the river and ate the entire crop of tomatoes and zucchini. In his 2012 TED talk, Sirotli (2012) advised his audience to show respect and dignity by following what he calls *enterprise facilitation*, where aid organizations partner with and provide support in ways that match the indigenous communities' habitat.

This chapter will provide a review of the literature that supports the modern homeschooling movement's goal of listening and providing educational support in ways that are most effective for each individual child. Like Sirotli, homeschooling parents hope to carefully observe their own children and tailor their pedagogy to meet the unique needs of their children. The first section will provide an overview of the contemporary homeschooling movement, the benefits of an alternative form of education, the collective power of networking and sharing resources, and the impact of computers with Internet access on homeschool families.

Overview of Homeschooling

Homeschooling parents commit to a decisive and significant role in raising, educating, and socializing their children (Ray, 2001). Homeschooling is also known as home-based education, home education, unschooling, home-centered learning, home instruction, and deschooling (Luebke, 1999; Ray, 2000; Taylor, 1986). Homeschooling is not only a voluntary choice made by parents (Hadeed, 1991) but also a rejection of traditional public and private

institutions (Gaither, 2008). The modern homeschooling movement has been described as an attempt by parents to regain power, control, and influence over their children's education after being taken away by government agencies and professional educators during the industrial era (Apple, 2007; Gaither, 2008; Mayberry, 1989; Moore & Moore, 1981; Murphy, 2006; Ray, 2000, Stevens, 2001).

Homeschooling in the United States has rapidly grown in the past four decades (See Table 1, subsequent, for estimated homeschool enrollment numbers). Enrollment numbers of homeschoolers reported by experts has varied based on several factors. Analysts, advocates, and scholars historically have not consistently agreed on characteristics that define a homeschooled child (Medlin, 2000; Murphy, 2012; Ray 2001). Some refer to the number of hours a child receives primary instruction at home, while others obtain data from national homeschool organizations (such as the Home School Legal Defense Association) and local homeschool networks. Additionally, local and state agencies have developed different regulations and guidelines for families to report their homeschool status. Unreliable methodologies have also contributed to discrepancies regarding homeschool enrollment (Murphy, 2012). Furthermore, experts agree that a large number of homeschoolers distrust government agencies and have not disclosed the method in which they educate their children.

Table 1

Homeschool Growth Estimates

	Current Population Survey and National Home Education Survey (Princiotta & Bielick, 2006)	United States Department of Education (Lines, all publications)	National Home Education Research Institute (Ray, all publications)
1970		10,000-15,000	
1983		60,000-125,000	
1985		122,000-244,000	
1988		147,000-294,000	
1990		250,000-355,000	
1992		375,000	
1993			450,000-800,000
1994	356,000	450,000-800,000	
1995		700,000-750,000	
1996	636,000		1,230,000
1999	850,000	850,000	
2003	1,096,000		2,000,000
2006			1,900,000-2,400,000
2007	1,508,000		
2008			2,000,000
2010			2,040,000

Note. Adapted from “Homeschooling in America: Capturing and Assessing the Movement,” pp. 8-9, by J. Murphy, 2012, Thousand Oaks: Corwin. Copyright 2012 by the author. Reprinted with permission.

The practice of homeschooling in the 1970’s, as mentioned previously, was almost non-existent and not viewed as a legitimate means to educate children. John Holt and Raymond Moore advocated the positive benefits, which inspired and convinced thousands of families that homeschooling could be a viable alternative to public schooling. The legalization and legitimization of homeschooling increased gradually from state to state during the 1980’s, which in turn fueled rapid growth among homeschool networks and advocacy organizations. Homeschoolers throughout the 1990’s were early adopters of utilizing computers to access information and curricula on the Internet (Ray, 2000, 2010, 2013). Rudner & Home School Defense (1999), Lines (2000), and Ray’s (2001) studies demonstrated that homeschoolers

performed at equal or higher levels academically than their public school peers. Medlin (2000), McDowell (2000), and Miller's (2000) findings supported claims that homeschoolers were socially proficient with others regardless of age. The stunning growth over the past three decades has shifted from a meager cluster of religious fundamentalists to a significant force of citizens, representing every facet of American society. Homeschooling has now moved into the mainstream as a reasonable alternative to public school education (Basham, Merrifield, & Hepburn, 2001; Collom, 2005; Gaither, 2009).

Many families decide to homeschool their child for more than one reason (Ray, 2015). The National Household Education Surveys Program (Noel, Stark, Redford, & National Center for Education Statistics, 2013) reported the following top reasons that parents opt to homeschool include concerns about the environment in other schools (91%), a desire to provide moral instruction (77%), dissatisfaction with academic instruction at other schools (74%), a desire to provide religious instruction (64%), a desire to provide a nontraditional educational approach (44%), or for a child with special needs (17%) or a physical or mental health problem (15%).

Increasingly, parents have been concerned with their child's well-being at public and private schools in the United States (Knowles, 1988, 1991; Ray, 2015; Scheps, 1999). Occurrences of bullying, drugs and alcohol, weapons, gangs, psychological abuse, and inappropriate sexual contact are on the rise. Homeschool parents consider their own living environment is healthier and safer compared to public and private institutions (Korkmaz & Duman, 2014). Mazama & Lundy (2012) report that racism in traditional schooling interfered with learning and their environment dramatically changed for the better when the child was homeschooled.

A large majority of homeschool families feel it is their primary responsibility to teach and instill a particular set of values and beliefs to their children (Korkmaz & Dumaz, 2014; Ray, 2015). Many parents assert that the school system's lack of moral curriculum leads directly to safety issues mentioned above. Most families believe they can more effectively guide their children and model appropriate behaviors in their own homes since adult-to-child ratios are more reasonable than overcrowded classroom conditions. Families participating in the practice of homeschooling enjoy close-knit bonding between its members and experience more flexibility with child-rearing responsibilities (Scheps, 1999). Homeschooling families contend that a loving home environment is naturally more nurturing and effective than that which is controlled by certificated teachers, high-paid administrators, and out-of-touch legislators who powerfully influence children's formative development while enrolled in public and private institutions.

Sub-standard academic outcomes in public schools have disappointed parents for decades in the United States in spite of program improvement, professional development, increased funding, and improved access to current technologies. Personal computers, smartphones, tablets, and other devices now available that provide a plethora of instructional resources have empowered and equipped parents to adequately provide opportunities for a quality homeschool educational experience (Hanna, 2012; Marsh, Carr-Chellman, & Sockman, 2009; Valery, 2011). Homeschool parents are finding that meaningful learning occurs in everyday circumstances and abundantly in locations beyond a typical classroom (Kraftl, 2013).

Many parents remove their children from traditional schools based on the belief that their child's learning needs are overlooked and unsupported (Jolly, Matthews, & Nester, 2012; Kraftl, 2013; Vigilant, Anderson, & Trefethren, 2014). Flexible homeschool structures afford myriads of instructional approaches and strategies to choose a style that fit a child's abilities and interests

(Ray, 2015). Families have also chosen homeschooling for its flexible scheduling. Their child's participation in sports, music, acting, or other time-intensive programs frequently interferes with traditional, rigid school scheduling. Families that travel great distances to attend events and performances have found the practice of homeschooling very appealing.

A growing number of parents have decided to homeschool their special needs child (Duffy, 2002; Gaither, 2009). Parents of autistic children have been frustrated with public schools as beneficial therapies and methods are not implemented in public school programs (Cook, Bennett, Lane, & Mataras, 2013; Hurlbutt, 2010). Gusman (2006) points out that home-based education is better suited to maximize instruction with more flexible scheduling, more positive social environment, and less time spent on non-academic tasks. Arora (2006) and Parsons & Lewis (2010) indicate that special needs children experience less bullying when they are homeschooled. The parents of gifted and talented children perceived they were better equipped, compared to public schools, to identify and interpret their child's giftedness. Even when gifted services were available in public schools, most parents observed their gifted child's progress had deteriorated below expectations. Parents of gifted homeschoolers have found success collaborating with other families as they design an individualized program for their child to enhance their talents and abilities (Jolly et al., 2012).

Homeschooling families can be recognized by how their child's education is financed, administered, and regulated (Duvall, 2005; Murphy, 1996). Homeschooling parents pay the majority, if not all, of their resources and costs incurred for their children's education. At least one parent makes curricular, instructional, and assessment choices regarding the child's learning. Homeschool parents oversee, monitor, and are primarily responsible for the educational environment with little, or no influence from any government agency or religious organization.

In reviewing the literature, it is important to note what is not considered homeschooling. Children who have been educated at home prior to being old enough to start formal schooling are not considered to be homeschooled. There are other children who are not categorized as homeschooled: those who are unable to attend public school because of their remote location (Knowles & Muchmore, 1995), others who have a long-term medical illness (Princiotta & Bielick, 2006), and children who are educated in the home by another parent who receives compensation (Roach, 1988). Finally, some families educate their children in a hybrid environment that mixes homeschooling with public schools or homeschooling with private institutions. Students receiving more than 25 hours a week of instruction at public or private schools are not considered by the National Center for Educational Statistics (Bielick, Chandler, & Broughman, 2001) to be homeschooled.

In 2013, the NCES (Noel et al., 2013) reported that approximately 3% children in the United States from the age of 5-17 primarily receive instruction at home rather than a public or private institution. The number of children that are homeschooled or the rate at which the homeschool movement is growing is challenging to measure exactly for a variety of reasons. Lines (1999) reports that state and federal government agencies have never required every family to report that they homeschool as an alternative to public education, what age their children begin the process, or how many of their children are homeschooled. Some states allow, on the basis of religious freedom, families to refrain from reporting their status to state or local agencies. Other constitutions or statutes permit parents to self-select whether or not they file paperwork or an affidavit to form a private school. Many parents are leery regarding any type of disclosure to the government as to the way in which they choose to raise their own children (Mayberry et al., 1995). Additionally in a few states, some children are homeschooled either too

young or too old and are not included in the compulsory school range of ages. Finally, some home-school families identify themselves as full-time homeschoolers even though their children attend part-time at a charter school or private institution.

Often, rigorous random statistical analysis has been weakened due to the fact that individual states have different requirements on distinguishing which families are indeed homeschooling (Stevens, 2001). Determining the precise number of homeschooling families in any state is difficult to accomplish. Typically, national estimates are given within a range of values that fluctuates depending on the researching organization. It appears that some bias may exist when calculating estimates of the homeschool population (Murphy, 2012). Some homeschool advocate groups consistently report higher numbers than some government agencies, which may be caused by a population that is hesitant to be tracked (Collom, 2005). In 1999, for example, the National Home Education Research Institute (NHERI) estimated there were 1.2 million homeschoolers (Ray, 2000) compared to the National Home Education Survey's (NCES) figure of 850,000 (Princiotta & Bielick, 2006). Likewise in 2007, NHERI's approximation for homeschoolers was between 1.9 and 2.4 million compared to the NCES's lower value of 1.5 million homeschoolers (Bielick, 2008). Another possible reason for discrepancies in estimating the number of homeschooling students may come from the methods that researchers have historically utilized over the past thirty years (Mirochnik & McIntire, 1991; Murphy, 2012). Statisticians have used some or all of the following to make their predictions: lists of members from homeschool associations, orders and purchases from homeschool curriculum providers, and voluntary, unverified household surveys (Bielick et al., 2001; Lines, 1999; Murphy, 2012).

Besides not knowing exactly how many families in the United States have chosen to

homeschool their children, there has also been a firm resistance in the homeschool community to participation in scholarly research. Researchers typically rely on convenience sampling even in regions where the reporting is considered highly accurate. While statisticians and researchers are able to analyze high percentages of the public school students' standardized achievement tests scores, homeschoolers voluntarily participate in similar assessments, thereby limiting the ability to accurately compare the two groups. For example, Mayberry et al.'s study (1995) sample response rate was about 25%. Ray (2002) was only able to gather standardized test scores from 5,400 students from the estimated 700,000 total homeschool students in his landmark 1996 study. Rudner & Home School Defense (1999) utilized scores from 20,760 homeschool students but that did not even remotely reflect the total estimated population of 850,000 homeschool students (Bielick, 2008). Homeschoolers have historically have been hesitant about sharing their practices and participating in surveys as they are fearful of losing their parental rights over to state controlled agencies. As a result, researchers commonly caution their audience to refrain from extending their recommendations and conclusions too broadly.

Another possible reason for participation resistance is that the topic of most scholarly homeschool research has been confined to academic achievement in mathematics, language arts, and reading. Murphy (2012) and Ray (2013) poignantly point out that homeschool parents have chosen an alternate form of education for a whole host of reasons other than increased performance on standardized tests. They value outcomes such as strong familial bonds. Perhaps if more studies, like Parker's (1992), Ray's (2004), and Kerns' (2015) were conducted to measure outcomes that homeschool parents valued then they might be more motivated and willing to engage with researchers. Spiegler's meta-analysis (2010) of twelve studies revealed that homeschool parents regarded three other beneficial outcomes besides academics:

transference of positive social and moral values, safe learning environment, and promoting strong familial bonds.

Families choose to homeschool based on a variety of factors but are typically classified into two types (Van Galen, 1991). Parents with a *pedagogue* orientation believe that curriculum and instruction should be primarily centered on the child's natural interests and curiosity without interference or mandates from government officials and certified educators (Basham et al., 2001; Holt, 1989; Lyman, 1998). The other perspective, labeled *ideologue*, is characterized by the parents' desire to educate their children with conservative, religious values and who disapprove of secular, humanistic approaches found in the modern public school system (Apple, 2007; Lyman, 1998; Moore & Moore, 1984; Ray, 2010; Rudner & Home School Defense, 1999).

Modern Homeschool Movement and Homeschool Advocates

Over the past 160 years, the common school movement or public school system has been recognized in the United States as the dominant vehicle that provides universal education. Before that time, the responsibility of educating belonged to individual families and local communities. Over many decades, the failure of public schools has been evident by parents, community leaders, and even educators (Mayberry et al., 1995). John Dewey's progressive philosophy, developed during the 1920's and 1930's, were intended to reform common schools. However, no lasting, significant transformation could be observed during the 1940s and 1950s. Dewey's (1916) belief that moral values might change as people in society change was counterintuitive to that of religious conservatives who felt that morality should be based on unchangeable, holy commands from God. In the 1960's and 1970's, many found the public education system at fault for the nation's academic and moral decay. After the Soviets launched Sputnik, families were concerned with scientific underperformance and doubted the rigor of traditional schools,

especially in preparing students for scientific careers. A lack of moral standards was also of great concern to conservative, Protestant families. Authors, such as John Holt, Ivan Illich, and Raymond Moore wrote of their dissatisfaction towards public schools and launched the modern homeschooling movement. In the 1980s, great numbers of parents withdrew their children from public schools (Mayberry et al., 1995) and either enrolled them in private schools or took it upon themselves to educate their children at home. Many families were greatly impacted by an education researcher, Raymond Moore, who was a guest speaker on the radio program, *Focus on the Family* (Stevens, 2001). Moore spoke on the benefits of homeschooling for several radio shows and James Dobson, the radio host, endorsed Moore's influential books, *Home Grown Kids*, and *Better Late than Early*, which encouraged parents to take back control of their children's education. Like Holt, Moore viewed schools treating children inappropriately on a production line and not nurturing their individual talents and gifts. Instead, education in the home was perceived to be naturally superior, as parents knew more about their own children than educational experts.

The contemporary movement slowly gained approval and legitimacy as homeschool families networked with each other and formed organizations to protect their rights. Advocacy groups, such as the Home School Legal Defense Association (HSLDA) and the American Homeschool Association (AMA), started appearing in the 1980s and 1990s, to protect family freedoms and provide homeschooling resources and support. In addition, homeschool networks were established for families who desired to share teaching responsibilities. One member of a support network might teach several children science, while another might teach a foreign language, while yet another might teach math, while someone else in the group might oversee care for infants and toddlers. Some of these relationships formally organized into cooperative

groups, or co-ops, that also provided encouragement and social support for the parents.

John Holt, an educator and author, has significantly convinced pedagogue families to search for alternative methods of schooling. His *unschooling* (Holt & Farenga, 2003) philosophy maintained children do not need professional teachers telling them what they should learn. Rather, that they can learn things on their own wherever they are and not just in formal learning environments. Holt (1989) claimed that the best way to help children is to pay particular attention to what children are interested in, provide opportunities for them to explore the world around them, and answer questions only when originated from the children.

Holt (1989) used three images of how formal institutions miss the mark in meeting the educational needs of all children. The first metaphor presents formal education as a factory that determines, exposes, and delivers the same, universal ingredients to all that it manufactures will result in the same universal end product. His second metaphor describes a science laboratory whereby students are locked up in a cage until they are able to accomplish some feat by using external reinforcements (both positive and negative) until the students have been trained to perform correctly. The third metaphor likens public education to a mental hospital where struggling students are diagnosed with disabilities, labeled inferior, and prescribed extra treatments in an attempt to make them perform better, if possible.

Homeschool parents, on the other hand, seek to provide individual instruction that is targeted towards their children. These parents are fueled by their interest and love for their children to provide a secure learning environment with appropriate accommodations. Daily routines and lesson plans can easily modified and tweaked to adjust to unique learning styles, developmental stages, and intrinsic interests. Instead of forcing course content unnaturally with repetitive worksheets in a timed environment with extra practice to be given as homework,

homeschool parents arrange and foster environments that provide access to real world experiences (Holt, 1989; Ray 2001).

Holt (1989) asserted that what children really need to learn is to observe how others more experienced than they are interact with the world around them and how other people accomplish tasks at a high level of proficiency. Children in homeschool environments have the privilege and opportunity to witness in close proximity how complex projects and tasks are accomplished over long periods of time. Children are invited to participate in a grown-up world and interact in a mentor-apprentice-like relationship with their parents and other adults in the homeschooling community. Homeschool parents view the learning process as lifelong and without borders. Most learning begins in the home but families are also engaged in their surrounding community and utilize resources that are publicly available (Ray, 2001).

Raymond Moore and his wife Dorothy were critical of the public school system and argued that children should commence their education formally between the ages of eight to ten years old (Moore & Moore, 1975). Often, same-age children are placed in groups without regard to their developmental level for the acquisition of academic learning, social etiquette and moral instruction. After analyzing over 8,000 studies of academic and social learning, the Moores found indications that premature entrance into formal schooling was associated with hyperactivity, nearsightedness, and dyslexia. They asserted that early-grade level children in public schools often felt overwhelmed and were confused in their learning environments. The Moores also likened the rejection that children experienced unnecessarily in formal institutions as a form of child abuse (Moore & Moore, 1982). These same children began to exhibit aggressive, negative attention behaviors and deteriorate academically. They hypothesized those children who started formal education as late as eleven or twelve would be capable of catching

up and passing other learners who start much earlier. As advocates, the Moores recommended an approach to homeschooling, called the *Moore Formula*, in which the children studied in an amount proportional to their developmental readiness and participated in activities both inside the home and in their local community (Moore & Moore, 1984).

Raymond Moore, persuading ideologue families, believed that the United States should re-examine its control of the educational system and that it was the civic duty of each family, not the government, to pass on proper moral values (Moore & Moore, 1981). The Moores presented the option to homeschool favorable to families who wanted to exercise religious freedoms when educating their children (Knowles, Muchmore, & Spaulding, 1994; Lyman, 1998). Homeschoolers typically disapprove of public education's inclusion of evolution and sex education into the curriculum (Van Galen, 1987).

Although not specifically mentioned in the homeschool literature, Lev Vygotsky, a Soviet psychologist, observed how children learned, played, and developed from a cultural-historical perspective. His work from the 1930's was made available to scholars in the United States and has since become foundational in the science of cognitive development. Vygotsky's (1978) concepts of *playful learning* and the *zone of proximal development* (ZPD) paralleled John Holt and Raymond Moore's perspective that homeschool educators could facilitate, support, and encourage their child's learning just as much or better than a professional school teacher. Indeed, Vygotsky's writings (Van der Veer & Valsiner, 1991; Vygotsky, 1978) recognized that a parent was extremely influential as the natural object of a child's imitation. Playful learning occurred when a child learns behaviors and thoughts that mirror the person they are pretending to be and this imaginary activity affords the child opportunities to find meaning and transition developmentally to a higher, more mature level. Cognitive and emotional development had the

potential to advance when the child interacted socially with adults and other peers. The child engaged their imagination to create a zone of proximal development, which granted them access to potential cognitive, emotional, and behavioral abilities beyond their actual level of development. Home-based educators are typically sensitive to their child's level of development and invite the child to learn from every day situations (Collom, 2005; Guterson, 1992; Mayberry et al., 1995; Meighan, 1997; Ray, 2000; Van Galen, 1991). Consequently, parents have a powerful social influence on their children's learning.

Vygotsky (1978) ZPD paralleled Moore and Moore's homeschooling approach (1975) that advised that home educators needed to be sensitive to a child's level of development and participation in a social context. Vygotsky pointed out that a child's ZPD is the difference between the actual level of development and their potentially level of development. A child may advance to a higher level by collaborating with a peer who has more experience or from receiving guidance from an adult. Homeschool parents believe that these types of leveling-up opportunities are found more frequently in a home-based educational setting where the child receives individualized instruction and interacts with siblings and other children that are at different stages of development. Vygotsky and his collaborators (Van der Veer & Valsiner, 1991) were able to correlate a young child's ZPD with their intelligence quotient (IQ). Furthermore, Vygotsky's findings revealed that higher IQ scores were found in children whose parents who had provided resources, materials, and opportunities in a similar manner compared to contemporary homeschool parents. Finally, Moore and Moore's claim (1975) that delaying the age for formal education mirrored Vygotsky's assertion (1978) for a restructuring of the formal schooling process. The complex relationship between the learning involved in each school subject and each child's unique ZPD is not proportional to other children of similar age or actual

level of development.

Issues Surrounding Homeschooling

For several decades, an ongoing debate has unfolded about whether government or the family is ultimately responsible and better equipped to educate young children (Lines, 1994; Ray 2013; Reich, 2002). Critics of homeschool maintain that the best way to preserve a democratic society is to through universal public institutions. Reich (2005) and Lubienski (2000) argue that young children can only be exposed to alternate points of view from their family of origin when they attend public schools. Advocates of homeschool assert that the effectiveness of individual families is superior to the government's efforts to mass-produce citizens. Homeschool researchers focus on three outcomes of the learning environment: academic development, social development, and the acquisition of values-related skills (Johnson, 2014; Mayberry, 1993; Ray, 2001).

Academic issues. Although critics believe homeschool students should be academically disadvantaged without a certified teacher delivering instruction, the review of the literature shows that homeschool children consistently perform at or above grade level on most academic measures (Belfield & Levin, 2005; Frost & Morris, 1988; Galloway & Sutton, 1997; Klicka, 1991; Knowles, Marlow, & Muchmore, 1992; Ray, 1986, 1988, 1999, 2009, 2010, 2013; Richman, 2005; Rudner & Home School Defense, 1999; Wartes, 1988). Several state departments of education have also conducted studies that reiterate the success of homeschool students with regards to academic assessments compared to public school students. Falle's analysis (as cited in Yeager, 1999) of Alaska's Centralized Correspondence Study show students performing 8 to 11 percentile points higher in math and 9 to 15 percentile points higher in reading and Arkansas' higher scores in every subject at every grade level (Klicka, 1991).

Homeschool students appear to be better prepared for college (Basham et al., 2001; Clemente, 2006) and are successful in their coursework once they attend (Galloway & Sutton, 1997; Golden, 2000; Jones & Gloeckner, 2004). They also are accepted into colleges at a higher rate than public school students (Richman, 1999). Homeschool students seem to adjust well during their first year of college (White et al., 2007) and reported fewer anxiety issues than their public school counterparts. In the same vein, Bolle, Wessel, and Mulvihill (2007) reported homeschooled freshmen adjusted well socially compared to study participants from the general population. In a study of college students taking calculus for the first time, Wilkens, Wade, Sonnert, and Sadler (2015) noticed higher course grades were earned by students who had been homeschooled. Furthermore, Cogan (2010) conducted an exploratory study with doctoral students and found those homeschooled achieved slightly higher retention and graduation rates compared to students who had been educated in public schools.

Whether or not parents were teacher-certified appears to have no impact on homeschool students' academic success (Ray, 1997; Wartes, 1988). Academic achievement does not seem to be affected negatively by length of time the children are homeschooled, family income level, method of instruction, type of curriculum used (Beaven, 1990; Lyman, 1998; Ray & Wartes, 1991), or gender (Ray, 2009). Possible explanations for homeschool academic excellence include low student-teacher ratios, high parental involvement, high expectations from family, high application of content to daily living skills, specialized instruction, and individualized, flexible curricula (Harris, 1988; Klicka, 1992; Medlin, 1996; Ray, 1986).

Bagwell (2010) examined the perceptions of both homeschooled and public-schooled students and reported that all of the responses revealed a lack of confidence in mathematical ability. Bagwell argued that mathematical preparation in the United States would be an ongoing

pursuit for homeschool educators. Cardinale (2013) interviewed homeschool students to explore how their children had acquired proficiency in mathematics. It seemed that parents created an environment where learning math was not only positive but productive and then let their children take ownership of their learning. Bachman (2011) suggested that academic and lifelong learning of mathematics might be different in a homeschool setting compared to a public school setting. Several scholars have pointed out the need for further research with homeschool math instruction. (Bachman, 2011; Bagwell, 2010; Cardinale, 2013; Clemente, 2006; Ortiz, 2000)

Homeschool parents adapt their math instruction with flexible schedules and informal structures to meet their children's individual needs and learning styles (Meighan, 1997; Patterson et al., 2007; Williams, 1991). Williams (1991) recognized a recurring pattern in homeschooling families that produced a moderate to high level of autonomy for students. Participants in Williams' study viewed learning as a process and focused on intrinsic factors to motivate their children.

It is interesting to note that math computation scores typically have typically been the most challenging for homeschoolers. Tipton (as cited in Yeager, 1999) found that homeschool math scores frequently took a dive during the early teen years. Bloom (1981) commented that a child's acquisition and proficiency of reading, vocabulary, and problem solving is most affected by adults in their family. Conversely, spelling and math computation were the least influential areas.

Rivero (2003) suggest that homeschool parents are patient and persistent in all areas of education. They have a great capacity to identify what works for their children and are willing to change course when necessary. According to Rivero, watching and listening patiently is one of the most important hallmarks of homeschooling techniques.

Many homeschool families seem to enjoy the benefits of learning new things together. Ray (1986) and T. S. Brown (1994) ventured that homeschool parents frequently discovered a new passion for learning and their children caught on to that excitement as well. Homeschool parents usually incorporate learning into routine activities and blend the children's interests with the curriculum (Ray, 2002). Parents seek out help from community experts to support and provide scaffolding for their children (Medlin, 1996; Van Galen, 1987). Numerous homeschool families utilize resources from their communities and collaborate with others to educate their children (Muldowney, 2011; J. Thomas, 2016; Topp, 2014).

Socialization issues. Critics, professional educators, friends, and even extended members typically doubt that children that are homeschooled will gain the social skills necessary to become productive, well-rounded citizens. Expectations for what makes up socialization and how it should be developed may be a challenge to define and agree upon (Guterson, 1992). Guterson maintains that every parent should be concerned their child's social development regardless of public, private, or homeschool environment. Mayberry et al. (1995) report that homeschool parents often decide to remove their children from common institutions because of the negative social conditions. For example, Gorder (1985) quoted a government study that reported "hundreds of thousands of thousands of secondary school students are physically attacked each month, ..., several million have something stolen that same month, ...one in four elementary students are afraid that [another student] might hurt them at school." (p.47). Pagnoni (1984) states that many homeschool families feel that removing their children from a negative social environment is not just a parental right, but a duty.

Homeschoolers believe that social values can best be learned from the family unit rather

than a public or private institution. Brofenbrenner (as cited in Pederson & O'Mara, 1990) observed that children have less significant human contacts when they are gathered in similar-aged groups of children. In the same vein, Farris (1999) points out that the most obvious choice for role models in passing on societal roles should be from responsible adults, such as parents and other family members, rather than from peers in public schools. Farris believed that social development is acquired from whomever the child spends the most time with. Colfax & Colfax (1988) note that homeschooled children are more competent, responsible, and well-rounded because the children have more opportunities to be around a wide range of people. Colfax and Colfax also discuss how peer-pressure that frequently occurs in public schools rarely model appropriate social values.

Delahooke (1986) performed a study that compared homeschool students to private school students. She found that both groups of children were socially and emotionally adjusted but the homeschooled group was less peer-dependent than their private school counterparts. Taylor (1986) found similar results with his study of fourth to twelfth grade students. The homeschooled children exhibited higher levels of self-concept compared to children who attended public school.

Montgomery's research (1989) with homeschooled children ages 10 and older debunked a common misconception that homeschoolers are lonely, sheltered, and detached from peers or adults. In fact, the data showed that homeschool students were just as, or more than, involved with activities that predict and nurture leadership in adulthood. Some homeschool students reported that more time was available for social participation because school demanded less of their time. Ray's (1997) national study also revealed that homeschooled children spend 10 hours, on average, a week in contact with non-family adults in their community. Homeschoolers also

interacted with other children of various ages with activities comprised of religious activities, organized sports, music instruction, and in other settings involving play.

Medlin (2000) states that socialization may represent social interaction with peers, conforming to cultural norms and values, or exposure to different people groups. Medlin maintains that children should also be involved in community activities and routines, shown how to function as productive members of society, and develop a sense of appropriate rules, beliefs and attitudes.

Socially, homeschoolers are able to interact and communicate with not only their peers of the same age but also younger and older children (Kunzman, 2009; Medlin, 2013; Ray, 2013). Additionally, most homeschool parents believe they can provide a better educational experience for their child, and are willing to sacrifice their time, money and/or careers to make it happen. The educational process is first and foremost about their child's individual learning needs, and extends well beyond traditional school standards, structures and schedules. Kunzman (2009) asserts:

Homeschooling offers tremendous latitude for parents to shape their child's experience in a variety of ways. This allows parents to treat learning as a much broader, more holistic endeavor than public schools, which are typically constrained by fixed standards, mandated texts, and unyielding demands of 'curriculum coverage.' (p. 316)

Homeschooling parents want their children to learn to respect and get along with people from all ages and backgrounds. They use a wide variety of resources outside the family to give their children the opportunity to interact with others. And they believe that their children's social skills are developing appropriately (Medlin, 2013). Smedley (1992) evaluated homeschool and public school children in areas of communication, socialization, and daily living skills. The data indicated that the homeschool students were significantly better socialized and more mature than the public school students.

Legalization issues. Although federal law does not regulate homeschooling, it has been legal to homeschool in the United States since 1993 (Somerville, 2005). Regulations and requirements fluctuate from state to state but all necessitate that homeschooling families report a minimal amount of information to local or state educational agencies (Lines, 2003). However, the type of information and interaction differs from state to state ranging from broad instructional plans to the children participating in standardized testing programs.

Advocates have argued that the Fourteenth Amendment bestows due process and a right to privacy in which parents establish their home environment and raise up their children. Supreme Court decisions have repeatedly protected parental rights to direct their children's education and upheld each state's power to regulate that education. Parents can choose from among traditional public, charter, private and home-based institutions while state agencies have the power to make reasonable policies and require coursework that develop decent, productive citizens (Kunzman, 2012).

Several court cases have upheld the right for parents to homeschool their own children as an alternative to public, common education. The case of *Meyer v. Nebraska* (1923) recognized that parents could select, within reason, what their children would be learning. *Pierce v. Society of Sisters* (1925) maintained that parents could choose public or private schools for their children with the interpretation that homeschooling falls with the latter category. Religious reasons for homeschooling were protected in *Wisconsin v. Yoder* (1972) in which compulsory attendance in public schools was contested on the basis of the First and Fourteenth Amendments.

Technology and Homeschooling

A high percentage (98.3%) of the homeschooled students used a computer at home (Ray, 2009). There currently is a gap in the literature regarding how homeschool students use

technology and leverage social networks for instructional benefits. Hanna's (2012) study followed 225 homeschooling families and found that computer technologies usage and social networking increased significantly between 1998 and 2008. Alias, Rahman, Siraj, & Ibrahim (2013) reported that homeschool parents in Malaysia use information networks and blogs to solve problems of implementing instructional strategies, accessing curriculum, and sharing expertise.

Clemens (2002) conducted a cross-sectional study in Washington State that explored homeschool parents' attitudes towards virtual schools and online learning programs. Although the response rate from the study's population was low (approximately 27%), one significant observation was that homeschool parents frequently retrieved academic resources from the Internet. The parents appreciated having access to current and affordable materials that were conveniently available from their own homes. Parents who participated in the study were skeptical of virtual schools' ability to effectively engage student interest and facilitate social interaction; they believed their children would be bored and disconnected if enrolled in online courses.

Tollefson's (2007) qualitative study analyzed how homeschool parents exchanged information and resources using online journals or blogs. While it is unclear if the content shared on blog posts was relevant and actually being used by homeschooling parents, it is noteworthy to point out that blogging is a viable medium for online communication. Tollefson proposed that blogging may impact homeschool acceptance and legitimacy as those who read the blogs may not be homeschoolers and discover benefits and advantages of the practice.

Andrade (2008) interviewed homeschool families in New York as to how computers and other types of communication technologies impacted and facilitated their homeschool

experiences. Technologies that were utilized by the families improved their ability to create, access, and sustain homeschool communities of practice. Andrade's research suggested that the diffusion and adoption of communication technologies help accommodate families who choose homeschooling as an alternative form of education. It is interesting to note that all of the participants in the study used computer-supported technologies to connect virtually with "like-minded peers and models of homeschools" (Andrade, 2008, p. 135) which suggests that virtual learning communities may be useful for homeschool co-ops. Finally, the study revealed that the combination of computers, communication technologies, and access to the Internet was ubiquitous in daily homeschool routines.

Valery (2011) studied sixteen homeschool families who participated in a virtual community for a period of 15 weeks. It is noteworthy to mention that only five of the families completed the study. Educational resources were shared and families communicated via forum postings and blogs. Parents of younger elementary-age children preferred hands-on and face-to-face instruction. Parents of older children found online learning more appealing as it could potentially provide more resources for the sophisticated level of curriculum of middle and high school aged students.

Homeschool Networks and Co-ops

Hill (2000) expected homeschooling parents to collaborate with other homeschooling families to collectively teach their children. He also expected an increasing number of families that would partner with charter schools to educate their children. Partnerships with charter schools, also known as cybercharter schools and virtual charter schools, provide options for families to supplement their child's educational experience both academically and socially (Gaither, 2009). Charter school organizations are staffed with certified teachers, are regulated by

a state agency (Cambre, 2009), and often deliver the curriculum to homeschooling families via a learning management system or comparable technology (Klein & Poplin, 2008). Anthony (2009) reported that homeschool families value the flexibility and freedom of the learning environment. Homeschool parents are able to select options that best fit the needs of their children, irrespective of a particular educational organization or location. Charter school hybrid programs offer homeschoolers curriculum and resources for little or no cost (Huerta, d'Entremont, & Gonzalez, 2006; Klein & Poplin, 2008). The charter school's educators share significant responsibilities with families as children attend at charter sites. The amount of time varies depending on program offerings, facilities, and family preferences. Charter schools offer homeschool families opportunities to prepare their children for college with conventional learning environments and traditional classroom expectations.

Unlike charter schools, the cooperatives rely on volunteers from local families in the homeschool network. Cooperatives frequently meet in churches or other types of community centers rather than in the home or a traditional classroom setting. Homeschool cooperatives, like charter schools, provide options for families to supplement their child's educational experience both academically and socially (Gaither, 2009). Curriculum, resources, and teaching responsibilities are also shared within homeschool cooperatives (Topp, 2014). Advocates assert cooperatives are extremely beneficial academically and socially. Not only does the child learn from different adults, who are typically passionate and knowledgeable with regards to the topic of instruction, but also the child interacts with other children who are grouped by interest rather than age. As mentioned previously, homeschoolers are more adept compared their public school counterparts when interacting socially with people of different age groups.

The literature supported that many homeschool parents participate regularly in

homeschool organizations that provide access to a network of other homeschool parents, instructional resources, and social support (Lines, 1999; Mayberry et al., 1995). Ivan Illich (1971) first envisioned that informal learning networks, or *learning webs*, should replace formal educational institutions. His system included four components that would allow educational resources to be more accessible to learners. The first approach was organize educational resources in storage facilities and made available for checking out by students or apprentices. Secondly, a skills exchange would be established for people (mostly non-professional educators) who would be able to announce and broadcast their content expertise for interested learners. Next, a peer-matching communications network would be established to connect learners with similar interests so they might participate in the learning process together. Finally, a list of mentors, who were willing to share their expertise, would provide conditions and protocols for how the learners would engage with their internship. Theoretically, Illich's plan to replace public schools with more feasible networks would depend greatly on social interaction and collaboration with both experts and novices.

One such organization is a homeschool co-op, in which parents network to share teaching responsibilities in educating their children. Networks and co-ops typically gather some, or all, of its members with the goal of providing an environment for their children to make friends, learning from other adults who have expertise in a content area, integrating fun activities into the home-based curriculum, exchanging ideas with other like-minded families and receiving encouragement from a support system (Topp, 2014; Vaughan, 2003). Expertise made available to the co-op is either free, arranged by swapping teaching duties, or acquired for a modest fee when an individual or outside the organization is contracted to provide a service.

Homeschool co-ops enjoy the benefits of learning in community (Topp, 2014). Children typically learn in small groups that are usually between three and ten students. Courses are selected based on content that is generally outside of the scope of their parents' comfort level and expertise. Homeschool parents value the opportunity for their children to interact with other children and adults. Co-ops meet at physical locations such as parks, churches, libraries, and community centers (Willingham, 2008).

Muldowney's (2011) case study in Texas followed the daily routines and procedures of a homeschool co-op. Her findings support that co-ops can provide quality academic instruction and positive social interactions that their children receive while attending the co-op.

Some homeschooling families may form partnerships with charter schools (Clemens, 2002; Lines, 2000). Hybrid programs have been developed so that children meet with a certificated public school teacher two to three times a week. While socialization and academic needs are met outside the home it is important to distinguish that the majority of instructional time is still parent-led.

Clemens (2002) found that homeschooling families utilized computers and other technologies supplement academic instruction. Homeschool parents are favorable to using online distance-learning courses for math and science curriculum. Participants reported that distance learning programs would be advantageous for accessibility, affordability, and flexibility. Some of the concerns, however, of utilizing a distance-learning program were that the delivery might be boring due to poorly designed online spaces and exposure to inappropriate content via the Internet. Homeschool parents also expressed a desire for training and support if they were to implement an online environment for instructional purposes. Additionally, some parents were hesitant about online learning programs hosted by a state-controlled agency because it might

endanger their right to homeschool.

Summary

This chapter surveyed the existing literature on the modern homeschooling movement. Homeschool parents have utilized a variety of strategies and resources to meet their children's individual academic and social needs. Homeschool educators share ideas, resources, and in certain circumstances, teaching responsibilities that benefit their children. Very few studies could be found in the literature on how homeschool parents collaborate with homeschool co-ops and charter school partnerships to teach their children. The intent of this study proposes to fill that gap in the literature. Chapter Three will discuss the methods, rationale, procedures, and concerns relating to the human subjects.

Chapter Three: Methods

This dissertation employed a qualitative case study approach to explore how a variety of learning environments and partnerships that homeschool parents utilized to teach their children. The purpose of this chapter is to explain how this research study was conducted, provide a rationale of its design, define the research questions, examine the data collection procedures, explain the measures taken to safeguard fair treatment of the study participants, and will conclude with a proposal for analyzing the data and actions that ensured validity and reliability for the study. A pilot study was developed, for one homeschool family, to determine what interview questions needed to be added or modified in order to maximize the effectiveness of the study instruments. A survey, used for demographic purposes, and subsequent interview were the principal means for gathering data. Items on the survey also offered an opportunity for study participants to gather their thoughts and prepare their responses for the follow-up interview. The interview questions focused on the experiences that homeschool parents had with charter schools and homeschool co-ops, using technology tools while educating their children, and what types of activities or resources that were used to supplement the learning environment.

The central guiding research question was: How do homeschool parents structure the learning environment to educate their children?

The sub-questions were:

1. What extent do computers and digital devices influence the learning environment?
2. How do homeschool parents cultivate and foster learning for their child?
3. What activities or resources do homeschool parents use to facilitate social development?

4. What activities or resources do homeschool parents use to facilitate academic development?
5. What extent did parents receive support from homeschool co-ops, charter school partnerships, and other community organizations?
6. How does the learning environment influence bonding between parents and children in homeschool families?

Case Study Approach

This study employed a multiple-case study approach in order to understand how charter schools and homeschool co-ops support homeschool parents and how parents cultivate academic and social success for their children. The case study design is an ideal approach when the inquiry focuses on *how* or *why* types of questions (Yin, 2014). The central question for this study asked *how* parents structure the learning environment to educate their children, so a case study model was appropriate. Stake (1995) affirms employing a case study when it is desirable to understand the particular qualities and the complex interactions of a phenomenon involving people and programs. Case study research is effective for gaining an in-depth understanding of an entity in its context and setting (Stake, 2006). Stake defines intrinsic case study as an inquiry in which the main focus of the case is on the case itself. An instrumental case study, on the other hand, is when the focus extends beyond the case to understand a broader concept. Thirdly, a multi-case study, or collective approach, is when a group of cases is studied. This dissertation employed a multiple-case study approach that involved ten homeschool families. Each homeschool family unit was studied in their own context as individual cases. Stake advises that as patterns emerge from cross-case analysis, the researcher will be able to support assertions regarding complex, situated, and problematic issues related to the case.

Rationale for Qualitative Approach

The qualitative or naturalistic approach is essential for exploring how parents structure the learning environment to educate their children. While much of the research on homeschool families focuses on parental motivational factors, few studies investigate instructional strategies and homeschool partnerships. Creswell (2009) recommends that a qualitative study should be chosen when a topic is emerging, because there are a lack of identifiable variables and theories.

A naturalistic paradigm was chosen for this study in order to reconstruct reality from the homeschool parents' point of view. Lincoln and Guba (1985) suggest that an individual constructs a reality that is unique. In social communities where people share common experiences, practices, and activities, an approximation of reality should be constructed that represents the shared reality of the group. Rather than attempting an infinite amount of inquiry to converge on a single shared constructed reality, this study intends to identify an approximation of the group's reality by reaching a consensus among the homeschool parents using multiple sources of data. Data saturation was identified when no new themes or patterns emerged from the interviews; in other words, the homeschool parents seemed to offer no additional insights as to how charter schools and homeschool co-ops provide support for academic and social development, or what types of activities and resources were used to supplement the learning environment.

Researcher's Role

The researcher has taught mathematics at two public schools, both at the middle school level, and at a private university for a combined total of more than twenty years. Partnering with families was an essential component for student success. The researcher consistently maintained efficient lines of communication so that parents could monitor their child's progress. While

teaching algebra for a university program, the researcher established and cultivated online learning communities that aligned with Knowles' (1980, 1984) motivational strategies that connect adult learners with their prior experiences and focus attention on how mathematical problem-solving skills were relevant to their career.

For the past nine years, the researcher has served as the primary homeschool educator for his two boys. During this time, he has collaborated with resource specialists and educators via partnerships with two Southern California charter school institutions. Conversing with both education specialists and homeschool parents has inspired the researcher to seek out alternative learning environments. The findings from this study will impact the researcher's practice of homeschooling and as an educational consultant. Overall, the researcher has positive inclinations that homeschool family partnerships are beneficial for learning.

The researcher's motives for homeschooling have been a combination of *pedagogue* and *ideologue* (Van Galen, 1987) philosophies. Imparting a Christian worldview (Collom, 2005; Gaither, 2009) to his children has been balanced with a desire to provide a learning environment that is optimized to his children's interests and talents (Basham et al., 2001; Holt, 1989). The homeschool literature has positively impacted the researcher professionally as a more effective educator, civically as a more productive citizen, and personally as a father with stronger relationships with his two sons.

Although the researcher homeschools his own children, he refrained from sharing personal experiences that might have tainted the research process. The study participants were informed only that the researcher was the primary homeschool educator for his children. This disclosure only was intended to establish a level of trust between the researcher and the study participants. The implementation of bracketing significantly supported the mitigation of potential

errors and misconceptions on the part of the researcher throughout the multiple-case study process.

Selection of Subjects

The researcher recruited fourteen homeschool families living in Southern California who were associated with a homeschool co-op support group or who partnered with a charter school hybrid program. Potential participants were also recommended to the researcher, also known as snowball sampling, as a technique for identifying volunteers. The target population of this study were parents who assumed responsibility for their child's education within three variations of homeschool models:

- Traditional homeschoolers: Parent chose all curriculum and educational resources while providing most, if not all, of the instruction to their child. There was minimal influence from or interaction with any other educational institution, organization or group;
- Homeschool co-op support group: Homeschool families that worked together to share educational resources and responsibilities. They often focused on social development for the child and social support for the parents;
- Hybrid charter school/homeschool partnerships programs: Homeschool families collaborated with a credentialed teacher to provide a two-platform learning environment. Guidelines established by charter school policies determined the distribution of instructional responsibilities shared between homeschool parents and charter school staff members.

Stake (2006) recommends three key considerations when selecting a multiple case study: sufficient diversity across contexts, assured relevance towards the object or phenomenon to be

studied, and adequate opportunities to explore complexity. Sufficient diversity was achieved in this study by selecting ten homeschool families, with purposeful sampling, who provided instructional support that uniquely aligned with their individual child's personality and learning modality. Snowball sampling was also employed by asking participants to recommend other homeschool parents who were teaching their children.

Sources of Data

Homeschool parents were the primary sources for data. The evidence in this study were collected through a survey and an interview protocol. The survey was comprised of items asking about homeschool experience, general demographic information, and communication preference for conducting the interview portion of the study. Parent interviews, each approximately 45 minutes in length, were conducted to capture the family's homeschool experiences relating to the context of the research questions. Open-ended prompts were used to explore how technological tools and homeschool partnership experiences had benefitted children both academically and socially. The data was coded, analyzed, and interpreted in order to inform best instructional practices and resources for homeschool parents.

Data Collection Strategies and Procedures

Once the homeschool parents indicated their willingness to participate in the study, the researcher made contact via Facebook Messenger and then by phone to explain the nature of the study, briefly described the research questions, and verbally confirmed their participation. Potential study participants received an email (Appendix A) from the researcher that announced the study's intent, explained the data collection process, and described the measures that were taken to safeguard sensitive information that may have arisen throughout the study. Prospective subjects were encouraged to share privacy concerns that the researcher may have not anticipated

and discussed options that might have reduced any type of risk to the participant or their family. An informed consent statement (Appendix B) and instructions on how to proceed further with the study was also included in the email announcement. Participants indicated consent when they clicked on an embedded link at the bottom of the email, which opened up an online survey via Google Forms. The researcher did not collect any data, from the survey or any interview, until the informed consent was received. Once informed consent was obtained, an email with a link for a brief online survey was sent to the participants.

Survey. Phase 1 of data collection consisted of an online survey that probed parents about their homeschool experience, requested general demographic information, and sought clarification of the preferred means of communication for the subsequent interview portion of the study. The online survey can be found in Appendix C.

Parent interview. Phase 2 of data collection involved an interview with the primary educator of each homeschool family. The researcher conducted the interviews, each lasting approximately 45 minutes, used the participants' preferred method of communication and recorded each session with Camtasia Recorder. The homeschool parent interview protocol (Appendix D) was designed to understand how the homeschool experience was impacted by technological tools and learning opportunities afforded by homeschool partnerships. Questions in the homeschool parent interview protocol (Appendix D) were initially the same for each participant. The researcher asked open-ended questions to guide the interview, probed additionally for clarification, and inquired further for deeper insights. The researcher asked the participants to describe their homeschooling experiences, provide a detailed picture of the learning environment, and share how other sources of support had influenced their children's education. Additional questions also targeted challenges that had surfaced during their

homeschool experiences. Data collected at this initial stage provided the researcher with the family's approach to homeschooling and identified perceptions on what strategies cultivated optimal learning for the homeschooled child. Framing the questions in the interviews align with Stake's (2006) suggestions for multiple case study research to concentrate on the main research issue rather than on the interviewee. Participants were asked to recommend other homeschool families that might be included in the case study. The researcher continued the data collection process with other homeschool families until redundant themes emerged from the interviews.

Human Subjects Considerations

This research study was considered exempt under 45 Code of Federal Regulations (CFR) 46.101(b)(2) as it involved no more than minimal risk to subjects. The focus of the case study relied on homeschool parents, all who were over the age of 18, and their perceptions as they taught their children. The human subjects for this case study were homeschool parents and as such, there was minimal risk of physical harm to the participants or other family members. The researcher recruited ten homeschool families from Southern California who shared teaching responsibilities in a traditional homeschool co-op or who partnered with a charter school hybrid program. The researcher also accepted recommendations, or snowballing sampling, as a technique for identifying volunteers. Potential study participants received an email (Appendix A) from the researcher that described the study's intent, each phase of data collection, and the measures that were taken to safeguard sensitive information that may have arisen throughout the study. Prospective subjects were also encouraged to share privacy concerns that the researcher may have not anticipated and discussed options that might reduce any type of risk to the participant or their family. The researcher obtained informed consent (Appendix B) from all study participants prior to any data collection.

The researcher sought and received approval from the Pepperdine University Institutional Review Board (IRB) for Exempt status. The homeschool parents were not a protected group. The topic of teaching children was not considered to be sensitive and it was deemed unlikely that the participants would experience any traumatic feelings during the interview process. Nevertheless, pseudonyms were used to protect the homeschool families' confidentiality and prevented any private information about their children from being unwittingly compromised. Additionally, study participants were informed of their choice to opt out of the study at any time. No penalties or negative consequences were given to those who withdrew from the study.

There was a minimal risk that the identity of the participants would become known in the homeschooling community in Southern California. In order to establish confidentiality, pseudonyms and codes were assigned in an effort to protect the privacy of the participant. A log of codes was used on the interview transcripts and other written notes were kept separate from the data itself. As a result, there was no identifiable information available to link the data back to the participants in the event of disclosure. All electronic work collected was backed up on a password-protected external hard drive and kept secure in the researcher's home. After the research has been completed for three years, the data collected for this study will be destroyed.

A log of codes, as proposed by Stake (2006), was kept separate from the data and will not reasonably place the homeschool parents at risk in the event of disclosure. Pseudonyms were used in the findings to further protect the homeschool participants and their children's identities. The researcher stored all records electronically in a password-protected file in a secure location. Records that might be printed in hard-copy format were locked in a safe at the researcher's place of residence. All records will be destroyed three years after the study's conclusion.

Analysis

Data analysis began with the stages proposed by Stake (1995, 2006) for individual analysis and multiple-case analysis. The first stage (1995) employed direct interpretation of the interviews so the researcher was able to identify patterns, themes, and aggregate categories to produce a portrait of each individual case. The researcher transcribed the in-depth interviews as soon as possible and began searching for patterns. Case study analysis is an iterative and ongoing process in which the researcher produced codes, categories, and relationships to identify material that represented the case and the fundamental issues. Stake (1995) advises that both categorical aggregation and direct interpretation be used depending on the context of the case and the issues; some patterns may be known beforehand while others may surface during analysis. Regardless of approach, attention was focused on understanding significant ideas that related to the research questions. With the interview transcripts, the researcher utilized an inductive approach for qualitative data analysis (G. Thomas, 2011) to condense the comprehensive raw data into a series of case studies. The approach was inductive since the patterns and categories of analysis emerged out of the data rather than from a theoretical proposition (Yin, 2014). Consistent data collection instruments and replication logic was utilized across every case in the study. The interview protocol was guided by the literature and seasoned homeschool educators, which included patterns and categorization. A matrix of categories was developed by the researcher and modified accordingly as each study was analyzed. Qualitative analysis software (HyerResearch) was used to support and document the coding of source documents. During this process, the researcher was able to combine some of the categories and thereby narrow the focus of the study. The researcher referenced and sorted data from the study file to follow potential patterns, corroboration, and converging lines of inquiry. Throughout data collection, the researcher

included possible patterns linking data bits and how relationships potentially transformed over the boundaries of the study (Richards & Morse, 2013). Throughout the analysis, the researcher remained receptive to new insights.

The second stage of analysis integrated a series of worksheets, developed by Stake (2006), for cross-case analysis. The researcher organized and highlighted distinctive characteristics of the individual case analyses as well as common similarities. Next, the researcher identified the degree to which evidence contained within each individual case supported the research questions. The final goal was to merge any overlapping findings of the individual cases.

Data Management

All data was managed, recorded, and stored with a high level of protection and reliability. Recordings and transcriptions from the interview portion were saved in an encrypted folder located on a non-web accessible hard drive. The researcher used HyperTranscribe to transcribe all interviews. The researcher solicited support from a seasoned homeschool educator and an additional researcher, external to the process, to review the transcripts for accuracy and cross-referenced for comprehensibility. For the purposes of this study, HyperResearch was utilized to aid and document the analysis process.

The participants' identities were kept confidential throughout the study. During the coding process, the researcher assigned alphanumeric identifiers for each homeschool parent and safeguarded the key for the identifiers in an offline location. After coding, pseudonyms were given to each alphanumeric identifier to further remove the possibility of linking the participants' responses with their identities when rich, detailed information would be presented in Chapter Four.

Means to Ensure Study Validity and Reliability

Procedures were established in this study to address potential threats to bias, credibility, validity, and reliability. The researcher has taught courses for over twenty years at public middle school and private university levels. He has also homeschooled his own children for over nine years. Checks and balances recommended by Yin (2014), Creswell (2009), and Stake (1995, 2006) were put into place to minimize researcher bias throughout the study. In this study, the researcher employed triangulation (Creswell) to capture different aspects of homeschooling practices by using multiple methods and multiple types of data collection from the survey instrument and parent interviews.

The researcher recorded the interviews with Camtasia Recorder and personally transcribed and coded the interviews within seventy-two hours to maximize data accuracy. The researcher rechecked the transcripts with the recordings as one measure of guaranteeing reliability. The researcher, in order to preserve internal reliability, used qualitative analysis software (HyperResearch) to define the code book and document the coding of sources. A coding scheme was created and frequently reviewed to monitor themes and patterns to decrease the possibility of mistaken interpretation of the data. Support was solicited from an additional researcher for a peer review (Lincoln & Guba, 1985; Yin, 2014), in which the researcher's methods, coding processes, and interpretations was discussed, challenged, and reviewed. Any refinement of the researcher's efforts served as an external test of reliability.

The findings from this study will be relevant to the ten homeschool families observed in this study. A test of external validity may not be assessed for generalizability beyond the immediate cases. However, successful homeschool practices identified have the potential to guide future studies. Homeschool families that effectively leverage technology tools and

homeschool partnerships to benefit learning may also adapt ideas or alter strategies to meet the unique educational needs of their children.

Validation of the Data Gathering Instrument

For content validity, the researcher solicited support from a seasoned homeschool educator, external to the process, to pilot test the survey questions and the interview protocol to determine if the information measured was essential or useful. Instructions for the survey instrument, the time needed for completion, along with a review of the interview protocol were critiqued independently and then discussed in a debriefing session to ensure content and readability. The researcher was receptive to the seasoned homeschool educator's suggestions; questions from the interview protocol were modified in order to meet the goals of this study.

Bracketing

Throughout this case study, any researcher's bias from being a participant observer was addressed. A personal journal of notes and memos was kept and the researcher refrained from implementing any type of detailed comparison and analysis until the conclusion of data collection. The researcher maintained the practice of keeping an ongoing, self-reflective diary to be aware of how his values influenced his own perceptions and interpretations of the data. Although the memoing process is a strategy typically found in a phenomenological study, Stake (1995) reminisces that case study methods frequently overlap with other qualitative approaches. The self-reflective diary was kept separate from the transcripts and the data set so the researcher's comments would not interfere with the core understanding of the case study. The researcher practiced reflexivity as he continually reflected on areas of personal bias that might have emerged in data collection, the proposed analysis, the forming of conclusions, and recommendations for future research.

Summary

This chapter provided information about this study's methodological framework of qualitative approach, strategies of multiple-case study, human resource considerations, and analysis. This qualitative inquiry was a comparative multiple-case study, where the cases were homeschool parents collaborating and sharing instructional responsibilities with a charter school, homeschool co-op, or both. Research commenced with a survey for purposive sampling in order to identify study participants. Next, the researcher conducted a pilot study for a homeschool family. Subsequently, a series of case studies were developed and data was collected from a survey instrument and a parent interview. Finally, a comparative analysis of the case studies was produced and will be reported in Chapter Four.

Chapter Four: Results

This chapter reports the results of this multiple-case study of homeschool families in Southern California. It begins with a profile of each homeschool educator interviewed to provide a situational context and then describes the variations of learning environments utilized by the participants. To address the research questions, the perspectives of the parents, with regard to their instructional practices, familial relationships, and integration of computer technologies are analyzed. Finally, the themes from the findings are examined and summarized to address the central research question.

Restatement of the Research Questions

The central guiding research question was: How do homeschool parents structure the learning environment to educate their children?

The sub-questions were:

1. To what extent do computers and digital devices influence the learning environment?
2. How do homeschool parents cultivate and foster learning for their child?
3. What activities or resources do homeschool parents use to facilitate social development?
4. What activities or resources do homeschool parents use to facilitate academic development?
5. To what extent did parents receive support from homeschool co-ops, charter school partnerships, and other community organizations?
6. How does the learning environment influence bonding between parents and children in homeschool families?

Description of the Participants

The researcher sent email invitations with a link to an electronic survey to 30 homeschool parents. All of the homeschoolers lived in northern San Diego County, California, owned a personal computer with access to the Internet, and had at least one year's experience with traditional homeschooling, charter partnerships, homeschool co-ops, or any combination thereof. Fourteen homeschool parents responded to the electronic survey accessible from February 18 – March 23, 2017. Four of the participants opted out of the study due to time limitations, while the other ten participants granted consent to continue by scheduling an interview with the researcher. The interviews were conducted over the phone and recorded on two recording devices. Data saturation was accomplished when lack of new themes emerged from the interviews.

All 10 interviewees were homeschool moms with at least two children. One mom had two years of homeschool experience and the other moms had been homeschooling for eight or more years. All but one of the families indicated that undesirable academic outcomes found in public schools influenced their decision to homeschool. For nine of the 10 families, having the freedom to instill religious values was a determining factor for considering a homeschool educational model for their children. All participants had joined a charter school partnership at some point in their child's education. Eight of the homeschool moms had shared instructional responsibilities with other families in one or more homeschool co-ops. Eight of the moms perceived themselves as being their child's primary educator. The remaining two moms claimed that there was no primary educator: the responsibility was distributed evenly between charter school staff, online instructors, and the parent.

The following section provides description of the participants who were interviewed in this study.

Eva.¹ EVA is married and homeschooled two of her three children. The third child is a toddler and almost ready for pre-school. EVA partnered with charter schools for all of her school-aged children's education. She made the decision to homeschool during the kindergarten registration process at a nearby public school. Another friend had partnered with a charter school and EVA simply knew her children would be better at home with her. She observed that one of her children is academically gifted and going to college is a natural next step after high school. She encourages her other child to attend college but EVA knows that a child can be successful without a college degree. Homeschooling has helped EVA's children for both options.

Dorothy. DOROTHY is married and has two high school age children. She contacted the nearby public school the year before her oldest child started kindergarten and discovered that the staff did not appreciate parent volunteers. She has been with charter school partnerships and informal homeschool co-ops for all of her children's education. One of DOROTHY's main goals is to spend more time with her children and homeschooling provides her ample opportunities. She was able to observe what her children needed both socially and academically. DOROTHY feels she would have missed those insights if her children were attending public school.

Wendy. WENDY is married and has four children. Her children have never attended public or private schools. Before she had children, WENDY taught in a public school and realized that children could get lost in the system. She and her husband researched different options and were influenced by well-known homeschool advocates. She has homeschooled with charter school partnership and homeschool co-ops for all of her children as soon as they reached public school age. WENDY's goal for homeschooling is to prepare them by reading great books.

¹ All names in capital letters are pseudonyms

She prefers sharing teaching responsibilities with others but also values being the primary educator for her children.

Sharon. SHARON is married and has four children. Her two oldest children attended a local public school until a new math curriculum was introduced that did not seem to make any sense to her. She and her husband also noticed that their children had not learned how to read proficiently. The parents tried a private school but their children remained several grade levels below where they should be reading. Then one of their friends suggested homeschooling and Sharon discovered that her children were able to get caught up, meeting grade level standards. SHARON's two youngest children never attended public or private schools. Instead they participated in homeschool co-ops and charter school partnerships. SHARON also enrolled her children in online courses with students from around the world.

Rose. ROSE is married and has five children. She was a public school teacher before having children. ROSE wanted her children to be challenged without having extra work or tutoring other students. When her oldest daughter started kindergarten, the focus was on English Language learners and other students struggling academically. She partnered with a charter school and also participated in a homeschool co-op for all of her children. The emphasis for her homeschooling is to prepare the children for college and help them to become lifelong learners. ROSE did not feel that the nearby public schools would do an adequate job.

Lisa. LISA is married and has two children. She started homeschooling when her oldest was in seventh grade. Her oldest child attended a private school but asked to be homeschooled instead. LISA's oldest child researched homeschooling and thought it would be a better fit. LISA's main reasons for homeschooling are religious and for her children to be lifelong learners. Her oldest child finished high school and is currently attending college. Her youngest is in fourth

grade. LISA believes that her youngest child would be at risk or not as successful in a public or private school environment. LISA values the flexibility that homeschooling provides and the opportunity to meet the individual needs of her children.

Jill. JILL is married and has three children. Her youngest is in kindergarten and her oldest is in sixth grade. Her children started off with public school but the middle child came home in tears every day after school and was not learning anything academically in first grade. She started partnering with a charter school and then moved all three of her children into homeschooling to keep them all together. The decision to homeschool was motivated by the sense that her middle child was slipping thru the cracks and none of the public school staff noticed anything wrong. JILL's children thought the goal for going to school was to be well behaved rather than to learn academic and moral lessons.

Sofia. SOFIA is married and has two children. Both of her children are high school aged and have been involved with a charter school partnership since kindergarten. She was a public school teacher before having children and did not want her children to be in a public school environment with large class sizes and exposed to misbehaving students. She wanted her children to experience both environments of being homeschooled and being in a classroom of same-age children. SOFIA was able to volunteer and be very active in the classroom as well as homeschool on the home-days. Her main reason for charter school partnership was to have input from another teacher and to provide structure with all content subjects addressed at every grade level.

Diane. DIANE is married and has four children. Her youngest is in second grade and her oldest child is a senior in high school. Her oldest left public school at the end of kindergarten and DIANE has been homeschooling ever since. DIANE has partnered with a charter school and also

shared teaching responsibilities with a homeschool co-op. Her decision to homeschool was based on the desire to spend more time with her children and to decide what her children would be learning. DIANE wanted to be the main influencer rather than a teacher at a public or private school. She wanted to develop deep, strong, and close bonds with all of her children and realized that homeschooling as a learning platform would help her pass on character values and integrity to her children. DIANE values the one-on-one time she has with each of her children. During the teenage years, she and her children have had close connections and communicate well with each other.

Jennifer. JENNIFER is married and has two children. Her youngest is in seventh grade and her oldest is in ninth grade. She shares teaching responsibilities with a charter school partnership. Her children have never attended public school. Before her oldest child entered kindergarten, she contacted a nearby public school and discovered there were no programs available for students with advanced abilities for a kindergarten student performing at a third grade level for reading and math. The decision to homeschool was motivated by a desire to maximize the amount of time JENNIFER spent with her children. She previously had a career but once she had children, she realized that public school time would conflict with a significant period of time that she would have overall with her children. JENNIFER was unsatisfied with nearby public schools when her oldest child was entering kindergarten.

Research Question Findings

Findings are presented below and are organized first by addressing each of the six research sub-questions. This is followed by a discussion of the thematic analysis findings.

Research Sub-Question 1: Technology influence. Research Sub-Question 1 asked, “What extent did computers and digital devices influence the learning environment?” This

section summarizes the main themes of the interview questions from homeschool parents' responses pertaining to this research sub-question. Study participants recognized that developing proficiency with using computers, smartphones, iPads, tablets, and other digital devices was a necessary component for homeschooling their children. Regular access to online educational programs and websites was considered essential for equipping their children for future academic success. Academically, parents valued the computers and other digital devices as an effective tool to support learning in math and literacy skills. Additionally, seven of the families noted that Khan Academy, YouTube, and Google were particularly advantageous in the learning environment. Tutorials, video clips, and educational games accessed solely via the Internet supported, supplemented, and enriched homeschool instruction.

However, excessive time and energy spent on electronic devices was viewed as unhealthy and hindered the development of social skills. Based on a process of trial and error, study participants established time limits and age-appropriate boundaries for their children to use technology. All of the study participants also monitored computer usage for entertainment purposes and enrichment activities. All of the study participants had at least one computer device that could access the Internet. Online search engines were employed to find information, YouTube videos were watched for demonstrations and summaries, and online maps were reviewed for context.

Study participants deliberately set healthy boundaries for using computers and other devices in the learning environment. The parents recognized the potential benefit of using computers to enhance the homeschool experience. Based on recommendations from other homeschooling parents and charter school staff, computer programs and Internet websites were utilized to help teach critical thinking skills, practice word processing fundamentals, build

reading comprehension, provide research information from reliable sources, and extend the learning opportunities beyond the boundaries of their homes and geographical communities.

All of the study participants utilized computers and other digital devices into the homeschool learning environment. The homeschool moms knew that accessing resources via the Internet was a tremendous asset:

EVA: Online was a great tool for me to just go on to figure out his learning style and what may be going on that is he needs to learn in a different way or tips on teaching him certain things. So the Internet was always with huge resource. We found that one of the best ways to incorporate vocabulary was by hearing the words. When they would have a literature book, especially if it was one that was more challenging for them, we could use Amazon Kindle whisper-synch and they were able to hear the book while reading the book and it would keep track of where they were in their book. They would read with their eyes but they would also hear it. That was a huge benefit for both kids.

DOROTHY: [My children] had exposure to as many primary sources as possible and that is something that the Internet let us do. I can't pack them up, drive to Pennsylvania, go to the museums there, and say 'look here's the document.' But I can get them a picture of the document on the Internet and say 'see if you can read that from something that was from say 300 years ago.' It has helped us to have access to primary sources.

Several participants expressed caution that their children might develop an over-reliance on technological tools. JILL noted that establishing healthy boundaries for regulating screen-time was important for her children. If unrestricted, her children's facial expressions would seem faraway and distant. WENDY preferred that her children use regular paper to complete assignments and when reading books, feel the turning of pages, without the aid of a digital device. JENNIFER lamented that while her children were been empowered to learn from computers, the unfortunate consequence was that her role had diminished as a mentor and teacher.

Study participants saw that using computers and online courses as a platform for individualized differentiated instruction brought opportunities that they themselves could

otherwise never provide for their children. They understood the benefit of participating in hybrid classes:

SHARON: Each one of these history classes has 175 lessons and it takes about 2 1/2 to 3 hours to take each lesson. It's very intense. [My daughter] does it fully online and it is not 'live.' It is called a self-paced program. It's very rich. Each lesson has five parts. There's a teacher that teaches and it's very interactive. It's with the computer and they have quizzes and tests. In the lesson, they go to different museums around the world that interface with the book.

Online courses enriched the academic component of homeschooling, providing opportunities for the children to explore new interests and pursue their passions. EVA recounted an experience where her child learned alongside community college students in an online computer programming course. Other participants enrolled their children in self-paced, virtual courses by Veritas Press, so they could learn history from expert educators and interact with students from around the globe.

Homeschool moms tapped into other electronic resources to meet a variety of academic and social needs. ROSE guides her children to perform research online for speech and debate, science, and language arts courses. LISA used Dragon Dictation software to provide affordances and build confidence for her daughter who previously struggled with spelling. EVA subscribed to several online subscriptions, downloaded PDF documents, and printed the curriculum instead of purchasing workbooks. Several families purchased CDs when the course content was too challenging for the parents to teach directly to their children:

LISA: I've used technology as a tool to help us do things instead of [technology] consuming our lives. We use Teaching Textbooks, which is like CDs that you put in a PC. It is made by homeschoolers so they have a lecture on every single problem. If you miss a problem, you can see how every single problem is worked out. That really alleviates some of [my child's] meltdowns because then my daughter talks back to the computer instead of me. So that's been an awesome help for her. They're kind of dorky guys that do the math but she thinks they're really funny.

Research Sub-Question 2: Cultivating learning. Research Sub-Question 2 asked, “How do homeschool parents cultivate and foster learning for their child?” This section summarizes the main themes of the interview questions from homeschool parent’s responses pertaining to this research sub-question. Several participants viewed reading as critical for inspiring their children. JILL considered literacy to be a priority for cultivating lifelong learning skills and made “frequent trips to the library” to “instill a love of reading.” DIANE noted that she was more aware of her children’s interests and able to validate their individuality.

Several homeschool moms maintained that reading was critical for nurturing her children’s learning. JENNIFER reasoned that if she encouraged her kids to read then they would “learn so much about different subjects.” SHARON claimed that “magic happens” when she read books with her children or when they read the books to her. Some study participants read along with their children believing that own curiosity and passion for learning would be passed on to their children:

DOROTHY: I would be reading along and I would get to something that I didn't know and I would say that is fascinating! If we are studying bugs or something and I found out something interesting and I get really excited. ‘Oh my gosh!’ ‘That is fascinating!’ And I'm not faking it. I am actually super interested in learning. Just naturally my kids would see that and catch that so there was always this excitement of discovery.

Study participants credited field trips, museums, and road trips as catalysts for capturing their children’s interests and breeding grounds for fostering learning. Family vacations were often flexibly planned to avoid tourist seasons and more affordable accommodations. These outside-the-home excursions gave children opportunities to meet other adults passionate about history, architecture, and the liberal arts. Some participants perceived traveling to different locations as a vehicle for increasing her children’s motivation and interest, deepening their knowledge and understanding on a particular subject, and demonstrating that the learning

disciplines are interconnected. Prior to leaving on field trips, ROSE would share “background information from her personal experiences.” She would also use the Internet to further explore topics and reinforce lessons once the family returned home. With homeschooling, JENNIFER commented that she and children are always in the process of learning new things. The participants in this study reported that the learning environment boundaries extended beyond their homes. Assignments were often completed at the park, at the beach, in the library, at a coffee shop, and in the car.

Research Sub-Question 3: Facilitating social development. Research Sub-Question 3 asked, “What activities or resources do homeschool parents use to facilitate social development?” This section summarizes the main themes of the interview questions from homeschool parents’ responses pertaining to this research sub-question.

Study participants wanted to avoid negative socialization that sometimes occurred in public school settings. They chose to homeschool their children and play an active role in raising their children with positive character traits and behaviors. DOROTHY believed her children watched her closely and formed rules of behavior and developed systems of beliefs and attitudes that would last a lifetime:

[Homeschool kids] are not socialized by their peers. They are socialized by adults. They learn how to relate to their peers from an adult example. They learn generosity, patience, sticking with the task, that kind of thing, because they are watching adults.

All of the parents in this study perceived themselves as the primary mentor for their children, even if their children were interacting with same-age peers in charter school partnerships or homeschool co-ops.

Social interaction with extended family provided interaction between a wide range of age-levels. JILL expressed the desire for her children to be socially well rounded: “I want them to get along with others that are the same age but also those that are younger and older.”

Study participants valued and appreciate intergenerational bonding within the family unit. The parents prefer that time is spent and social interaction developed with siblings rather than narrowly focused attention with same-age peers:

Parents intentionally use sports and physical exercise as a means to cultivate friendships and be active in social settings. Homeschool families in this study recognized that their children should be exposed to a variety of social settings. WENDY wanted her children to practice associating with like-minded others but also encountering individuals with different paradigms and worldviews. Eight of the ten homeschool educators scheduled their children to participate in regular, secular activities. Their intent was to ensure their children’s social interaction was balanced and inclusive. All of the study participants believed their children are capable of developing meaningful bonds with others in their community. JENNIFER intentionally placed her children in a variety of social settings so they could associate with many different kinds of adults and children.

The study participants viewed homeschool co-ops and charter school partnerships as a natural source of social interaction and development:

DOROTHY: When we went to some collaborative days, there was every age group. We would all study Greece or whatever. I have always thought that one great thing about homeschooling is that we get out of that environment where every day, all day long, everybody is the same age, which isn't life. So I really enjoyed that [my children] are able to be around a greater variety of age groups.

While their participation with co-ops and charter schools was primarily for their children, a significant byproduct was support and encouragement for the parents:

Sofia: We also had a playgroup religiously every Friday. These were with homeschool families thru [the charter school] ...It was not only for the kids but for the moms. We needed that outlet and we needed to talk about and share experiences, frustrations, [and] successes.

Research Sub-Question 4: Facilitating academic development. Research Sub-Question 4 asked, “What activities or resources do homeschool parents use to facilitate academic development?” This section summarizes the main themes of the interview questions from homeschool parents’ responses pertaining to this research sub-question.

Several participants valued the flexibility and freedom to select their own curriculum.

EVA claimed this was crucial for helping her children achieve academic success:

I found, kind of the hard way, that finding the right curriculum choices for them was key. Finding out their learning style and what they enjoyed ... helped tremendously. Also if they understood the material, if they really understood the assignments, if it wasn't over their head or too difficult for them, there was less resistance as well.

Several participants taught subjects simultaneously to all of their children. ROSE often gathered her children together for a joint session:

We would gather around the dining table, have hot cocoa and cookies, and ...we would just go through the whole six weeks of history in one day. We would chunk our history and do it all together.

Differentiated instruction was utilized to meet the individual needs of the child. When providing individual instruction to one child, ROSE assigned independent work and computer-based activities to her other children:

I had five students, five different grade levels, all needing something at the same time and that was very difficult trying to adapt to the individual learning styles and different grade levels at the same time. To combat this, I would usually give the older kids something to do - usually with an iPad or computer or something that they could do independently. I would just move from one to the other. I would start the youngest and then go to the other and just round-robin it around.

Every study participants perceived their learning environment as being structured and rigorous. Read-alouds of literary text, history, and science were often done together as a family.

Language Arts and Math were typically done separately while other children participated in independent activities. JILL reported:

We all sit at the table and we all work. There is no eating or anything. My kids are all different but we get two solid hours in at that time. My oldest is very laid back but my other two kids need schedules and structure.

WENDY stated that her children gather around her for several hours to hear stories, study passages from the Bible, and learn history lessons. This read-aloud time is very rich and productive as all of the children actively listen to Wendy read and then participate in a follow-up group discussion.

Several participants shared teaching responsibilities with other adults via charter school partnerships & homeschool co-ops for math, language arts, and enrichment instruction. ROSE utilized a combination of resources:

My daughter participates in kind of a co-op. She does math at home on Wednesday and does her tutoring at [charter] school with writing and math. Then she goes to a different friend's house and her [friend's] mom teaches them the language and the literature lessons.

Research Sub-Question 5: Parental support. Research Sub-Question 5 asked, “What extent did parents receive support from homeschool co-ops, charter school partnerships, and other community organizations?” This section summarizes the main themes of the interview questions from homeschool parents’ responses pertaining to this research sub-question. In this study, participants perceived that sharing teaching responsibilities with a charter school or a homeschool co-op were beneficial to the homeschool experience. A hybrid educational model allowed parents to be significantly involved in their children’s education and also provide opportunities for their children learn and grow from other adults. Eight of the ten participants noted that they had always relied on additional support and could not commit to homeschooling their children full time. Academically, parents valued the collective talents and variety available

resources shared by other homeschooling families and certificated educators. Additionally, all ten participants unanimously agreed that homeschooling is not an isolated environment. Parents were encouraged and inspired by other adults. All of the homeschool educators in this study felt that partnering with charter schools or homeschool co-ops strengthened the academic performance of their children. The ratio of educators to students in charter school partnerships and homeschool co-ops was perceived by parents to be approximately one to 20.

Study participants perceived that charter schools or homeschool co-ops or both provided opportunities for their children to interact and develop socially with others. The social settings were organized in age-ranges similar to public and private schools. However, social interaction was not restricted or limited with same-age peers since the study participants were engaged in a variety of other social settings. Study participants regarded the hybrid program to be an advantage compared to families that strictly homeschooled their children or to families whose children attended public or private schools.

Homeschool parents also connected with other like-minded parents on Facebook and other social networking websites established by the charter schools and homeschool co-ops. In these virtual spaces, ideas were shared, parenting questions were addressed, and parents were encouraged to continue homeschooling their children. Study participants collaborated with other homeschool families grouped in co-ops to share academic responsibilities and resources:

SOFIA: A lot of the families that joined this co-op had about the same age group or grade level as our kids and one mom was a science teacher and another mom had a big interest in history. so we would meet on Fridays and the mom will take the older kids and teach the science and the other mom will take the younger kids and teach history.

DOROTHY: We were using the brilliance of each mom and we were using the energy of each mom and we were using their understanding, and we were using their different technologies because not every owned the same technologies. One mom might bring something, one mom might print out something, one mom might go to these websites, so by pooling our various intelligences and meeting at a spot that pertained to what we were

talking about and everybody sharing with other people it was really an exponential exposure to some really cool stuff.

Homeschool moms also looked to charter schools for academic support:

EVA: Our charter school does put on, once a year, a big conference that has every topic imaginable that you can go to learn different things. They also have Facebook pages where all of the parents are part of a big community and you can definitely go on there and post whatever you need. Does anyone have an idea for a new literature program or does someone know about more independent grammar program or whatever it may be you could certainly go on there and receive immediate feedback that way.

DIANE: I didn't know how to homeschool. I had that fear of I don't know what to do. There are so many possibilities and I don't want to ruin my kid. We found a [charter school] that was two days a week and then home three days a week. We followed their curriculum for about five years.

JILL: We pretty much dot our I's and cross our T's and do everything without deterring too much from what the charter school schedule says and what is recommended. I am happy with the curriculum and have not needed to tweak it so I have just stuck with it.

ROSE: I wanted to use the curriculum that the school gave me. It was either laziness on my part or not wanting to look for resources and make sure that they were good enough, but I just used what the school gave me.

DOROTHY: I could call one of them and ask them what's a good curriculum? The one that we're using right now is just not getting it. We were allowed to change curriculum if we wanted to one that better suited my child and his learning style. The people at [the charter school] would say 'you could try this' or 'you could try that.' They had that knowledge of different possibilities and you could pick their brain and that was great.

Several study participants utilized charter school partnerships for certain subjects, yet still preserved the freedom to choose their own curriculum and deliver instruction with other topics. Some charter schools organizations establish rigid guidelines, however, the homeschool educators in this study, collaborated with organizations that allowed a wide range of curricular resources to be used in the homeschool setting.

Study participants partnered with charter schools not only for their children's academics but also invested in healthy adult-to-adult relationships for themselves. More than half of the participants expressed their desire to connect with other homeschool parents to share ideas,

experiences, and everyday challenges. Gathering together brought encouragement and a renewed commitment to continue educating their children at home:

DIANE: Sometimes if we are going through a phase, I can call someone who's been through that type of thing before. They can talk me down off the ledge. Homeschooling in a community has been so much better than on my own.

JILL echoed the value of connecting with other homeschooling families:

At [the charter school], I am surrounded by like-minded families. I feel like I am truly doing my kids a favor educationally, socially, and character-wise with all of the experiences. The charter school is as close to perfection as it can be. There is a real open communication where I can go if I ever had a concern. They truly partner with you to address any issue that comes up.

Almost all of the study participants attributed their ability to sustain the practice of homeschooling to belonging to a support group associated with either a charter school or homeschool co-op:

DOROTHY: The way that I kept myself going is that I had to meet with other homeschool moms for coffee now and then. If my kids were doing something goofy, the other homeschool moms would invariably tell me that their kids did the same thing. I always left rejuvenated. As long as I met with those moms at least once a month, twice a month is pushing it, I got my sanity back because it's exhausting and frustrating. Those coffees made me realize that whatever I was going through was normal and we kept going.

Research Sub-Question 6: Parental-child bonding. Research Sub-Question 6 asked, “How does the learning environment influence bonding between parents and children in homeschool families?” This section summarizes the main themes of the interview questions from homeschool parents’ responses pertaining to this research sub-question. Study participants described how homeschooling affected and impacted relationships within the family. Overall, the benefit of spending more time together outweighed unfavorable interactions for parent-child, child-child, and extended family member-child associations. Parents reported that they were more aware and in-tune with their child’s needs and struggles. SHARON compared her stressful

experience of sending her older children to the healthier dynamic of homeschooling her younger children:

Before when I sent them away for eight hours to private school or public school, [then] they came home, and I was responsible to make sure they did three hours of homework. It put me in a position of being a bad guy because we were all really tired. Now I do not put a lot of performance pressure on my kids. We have been able to eliminate 98 percent of the drama that we had before.

More contact time with their children strengthened communication and trust for homeschooling families:

DIANE: We can talk and be real with each other. It is amazing compared to other people [that] hate the teenage phase and say, "My teen doesn't want to talk to me." I love talking with my teens. Homeschooling has created a relationship with my children that are a really good bond. We value each other.

Spending time with their children was attributed to creating and cultivating intimate, meaningful relationships. All study participants stated that the quality of life was better because of the homeschooling approach.

Study participants appreciated the freedom to select a learning environment that was best for their children. They were not restricted using a specific curriculum, limited by a bell schedule, or confined to a classroom setting. Homeschool families explored issues and topics that sparked their children's interest. As a result, their children were excited and engaged in the learning process.

Study participants noted a sense of satisfaction that their children were able to connect with extended family members. The positive social development of the study participants' children was evident and appreciated by others. Almost all of the participants noted that the grandparents were extremely delighted with their grandchildren's attention span, communication skills, and manners. Extended family members, while situated far away, were grateful that homeschool schedules and routines could be adapted to match their occasional trips to Southern

California. Other extended family members, who lived closer proximity-wise, were able to interact regularly with the homeschooled children and develop intimate, close relationships.

ROSE: I have wanted to homeschool my kids especially during the middle school years to be able to really establish a bond with them and get them firm in who they are before sending them off into the world. I just found that starting in kindergarten all the way up has just been a great journey for us and we've had a great time and gone through a lot of challenges. It has helped me to get closer to my kids and I'm very grateful.

DOROTHY: The biggest resource of all is that the parents can notice things about the kids that they might not have noticed if they were busier and if the kids can trust the parent more and watch the parent more - which is kind of creepy because you have to be careful about what you do - they can watch you more and absorb more of the parents' values and they really will see what we really believe. If we say we believe something and we don't live it then the homeschool kid will see it.

Thematic Findings

The 10 interviews provided detailed information of homeschool learning environments from a parent perspective. Thematic analysis resulted in 254 passages being coded. Four major themes emerged from the data:

- Flexible Structure;
- Quality Time with Family;
- Support from Like-Minded Others; and
- Technology Integration.

Table 2 provides a frequency distribution of the coded passages grouped by theme.

Table 2

Frequency Distribution of Coded Passages Grouped by Theme (N = 348)

Theme	Count
Flexible Structure	109
Quality Time with Family	58
Support from Like-Minded Others	87
Technology Integration	95

Theme 1: Flexible structure. In this study, participants identified flexibility as a key element in their decision to homeschool their children. Selecting a learning environment to individually match each of their child's style and personality was considered an advantage compared to what public and private schools could offer. Instructional time, both individually or grouped with multiple children, were modified to accommodate the family's schedule and children's preferences. Academically, parents valued the choice of when start and end instruction. Additionally, four of the families grouped history and science units together for children in mixed age groups. In one case, all the children gathered around the kitchen table while the mom facilitated a discussion covering the complete history unit of study.

Homeschool educators were able to add more instructional time, take field trips, visit the library, or search online resources to enrich the learning environment for their children. Parents acknowledged that learning should occur anywhere at anytime rather than within the narrow confines of a room or building. Homeschool educators in this study utilized a variety of instructional strategies, curriculum, and environments to match their child's unique needs and abilities.

Study participants perceived that homeschooling, as an educational choice, afforded more time for their children to interact and develop socially with others. The social conditions were not just limited to peers of the same age but also across a wide range, often spanning across generations. Homeschool parents noted that their children had more time for social activities since academic assignments were finished in a timely manner. Homeschool educators found their children had more time to regularly gather at park meet-ups and participate in extracurricular sports activities, music and dramatic performances, and religious events. As a result, the parents perceived their children had more opportunities to interact socially than if their children attended private or public schools.

Table 3

Frequency Distribution of Coded Passages Grouped by Subtheme: Flexibility (N = 109)

Sub-Theme	Count
Adaptable for Each Child	32
Unique Needs of the Family Unit	21
Structure and Routine	36
Shared Academic Responsibilities	20

Adaptable for each child. All of the study participants recognized that their children were unique individuals and valued homeschooling as an educational model. The homeschool parents appreciated the ability to alter the learning environment in their home to match their children's learning style, academic and social development, and personality. Based on feedback from her children, SHARON modified the learning environment, structure, curriculum, and partnerships with charter schools and homeschool organizations. EVA and JILL modified the learning

environment to address each of their children's unique needs. They both deliberately motivated their children differently to help each child grow academically, socially and to develop positive character qualities.

Half of the study participants shared that their second oldest child had a completely different learning style than the oldest child. The parents valued homeschool flexibility that afforded them options to creatively modify the learning environment, adjust the curriculum, and motivate their children according to their individual personalities. LISA, EVA, JILL and DOROTHY were able to implement changes to guide and encourage their younger children to be engaged academically.

Unique needs of the family unit. JILL recruited one of her neighbors to help tutor her children in math. Partnering with a charter school brought additional resources to homeschooling families in this study. Educational specialists and certificated teachers offered guidance and support to the homeschool parents. JILL credited the charter school partnership with resolving curriculum issues, setting realistic expectations for her children, and providing healthy boundaries for her children with their individual learning styles.

SOFIA, DOROTHY, ROSE, and JENNIFER noted that their children's interests influenced decisions to make field trips, led to further extended studies and Internet searches, and brought more visits to the local library so the children could read more books to expand their knowledge and understanding.

WENDY, SHARON, and DIANE changed homeschool co-ops, charter school partnerships, and enrollment in online courses depending on the unique needs of their children and the whole family.

Structure and routine. Once the study participants were able to find a learning environment that matched their children's learning style and personality, the structure and routine of homeschooling was consistent and predictable. JILL made adjustments to the time and day each subject was studied and found that each of her children improved academically and had a more positive feeling towards learning. JENNIFER took her children on short field trips and discovered her children studied effectively in the back seat of the car. ROSE gathered all of her children around the table to teach history in chunks. DOROTHY found that starting homeschool at 10 o'clock in the morning worked better for her and the children. She also gave her children breaks during the afternoon and did not get bothered if the instructional time extended into the evening hours. For DOROTHY and her children, it helped to have a relaxed, flexible schedule. Half of the study participants reported that math was studied first each day and then followed by the other subjects in no particular order. The older children would decide what needed to be done and work on lessons independently while the homeschool parent would help the younger siblings.

DIANE, SHARON, LISA, and ROSE described how unforeseen family crises and predicaments disrupted the homeschool routine and schedule. However, in each case, the families were able to make adjustments and turn the unexpected situation into positive experiences and valuable life lessons for their children.

Shared academic responsibilities. Study participants perceived that sharing teaching responsibilities with the charter school and homeschool co-op was better for their children. ROSE shared teaching responsibilities occasionally with several other homeschooling families. Once every six weeks, the families would gather together at one of the houses for a co-op. One or two parents provided care for the infants and toddlers, while the other adults taught science

and history lessons for a full day. ROSE noted that history came very naturally for her but another co-op parent preferred teaching hands-on science lessons. For math, one of ROSE's children would go over to a friend's house, who was also homeschooled, to study math on a weekly basis. DOROTHY emphasized the value of networking and involving other homeschool parents and that the result was that her children benefitted from the gifts and talents of other adults.

Theme 2: Quality time with family. In this study, participants identified quality time as a key factor in their decision to continue homeschooling their children. Homeschool parents observed that their children could finish academically tasks more effectively, master subject matter and demonstrate proficiency quickly. Homeschool students received sufficient hours of sleep, ate healthy foods, and were able to focus during their routine, on-task academic time.

Parents in this study indicated that they enjoy spending time with their children and seeing them grow and mature. Deep, positive, intimate parent-child relationships were reported in each of the homeschool families in this study. Parents considered themselves experts at knowing their child's learning style, interests, and strengths. The parents also were keenly aware of when their children needed guidance, additional support from outside the family structure, or more time to master academic concepts.

Every participant in this study homeschooled multiple children and had observed close-knit bonds among siblings. Collaborative efforts, both academically and socially, were common occurrences in each participant's household. The older children tutored the younger.

Homeschool parent educators in this study noted that their children developed strong bonds with extended family members. Three of the families described how grandparents shared teaching responsibilities and were able to spend significant periods of time with their

grandchildren since they were homeschooled. Homeschooled children learned academic and social skills across an intergenerational spectrum. Study participants shared that their children developed deep relationships with other homeschooling families as their vacations and school time were more flexible than public school families.

As mentioned previously, homeschool parents noted that their children had more time for social activities since academic assignments were finished in a timely fashion. Homeschool educators found their children had more time to regularly gather at park meet-ups, participate in extracurricular sports activities, music and dramatic performances, and religious events. As a result, the parents perceived their children had more opportunities to interact socially than if their children attended private or public schools.

Table 4

Frequency Distribution of Coded Passages Grouped by Subtheme: Quality Time (N = 58)

Sub-Theme	Count
Modeling Character, Values, and Ethics	14
Balanced Social Interaction and Development	10
Positive Parenting Involvement	10
Healthy Familial Bonding	24

Modeling character, values, and ethics. Parents perceive their children are well behaved, responsible, and caring. Time spent with their children pays off more than academic material is learned. Parents focus on building character, work habits, and discuss ethical decision-making processes. Homeschool parents in this study allowed their children to gradually take on more responsibility to succeed or learn from failure in their academic and social achievements. The

everyday routines of homeschooling positioned parents to learn right alongside their children, share their curiosities, encourage their passions, cultivate questions, and display mutual respect.

Balanced social interaction and development. Parents perceive their children have a multitude of opportunities to socialize with other people of all ages. The parents noted that their children engage with same-age peers but it is not the majority of their social time compared to public or private school children. Most of the interaction with same-age peers occurred with charter school programs, extracurricular sports teams, and faith-based religious groups.

Socially, study participants perceived that their children were well-rounded and could be comfortable in a variety of ages, settings, and experiences. As homeschool academic time was flexible and completed efficiently, more time for extracurricular activities were available. Furthermore, homeschool parents did not assign as many drill/kill worksheets or meaningless assignments as they perceived were being assigned to public or private school children.

Homeschool parents in this study remarked that their children's social relationships were balanced and healthy. Their children regularly participated with similar-age groups and also ability-based groups. In a sense, their children were perceived as socially multilingual – able to adapt to and thrive in a multitude of social settings. Extended family and members of the community described the homeschool children as socially mature, polite, and caring individuals.

Positive parenting involvement. Parents are involved in their children's lives, personalities, and emotions. They collaborated and worked through life challenges as a family unit. Parents perceived that there was clear communication between children and parents. Close ties between husbands and their children were professed by all of the homeschool moms in this study.

Healthy familial bonding. Parents reported that they had close relationships with their children. All of the study participants observed that their children had healthy relationships with each other. Academically, the parents gathered their children together to learn together whenever possible. The ability to socially interact with other age-groups was a natural byproduct of the homeschool environment since it was common for parents to teach academically to several or all of their children whenever possible.

Theme 3: Support from like-minded others. In this study, participants networked and received support from like-minded others. While homeschooling was believed to adequately equip and prepare their children for success in life, parents reached out to others for help to educate their children. Dissatisfied with public school institutions, study participants chose to network academically with charter schools and homeschool co-ops. Beyond simply sharing teaching responsibilities, parents confirmed benchmarks and milestones by grade level and subject matter, adopted curriculum and assessments, and determined how to integrate technology into the learning environment. With regards to social development, study participants strongly disliked the notion that their children led sheltered lives or were not developed adequately. Co-ops and charter school interactions, as well as a multitude of extracurricular activities were viewed as sufficiently provide a healthy, natural environment for their children to develop socially.

Table 5

Frequency Distribution of Coded Passages Grouped by Subtheme: Support from Like-Minded Others (N = 87)

Sub-Theme	Count
Academic Support	37
Social Support	16
Homeschool Parent Support Groups	15
Enrichment Activities	19

Academic support. Study participants sought structure and guidance for teaching their children. They followed the same curriculum that other like-minded families and charter schools recommended or required. Parents felt assured and reaffirmed that their children would be prepared for college by using the recommended curriculum and instructional materials. Charter Schools endorsed online resources such as Discovery Education, BrainPop, Lexia, Reading Plus, EasyBib, and Schoology. Parents who thought themselves weak in an academic area would seek out academically talented, passionate parents in homeschool co-ops to teach their children instead.

Social support. Study participants partnered with co-ops and charter schools not only for the academic benefits, but also to reap social benefits for their children. The parents valued social interaction between their children and the other homeschool educators and charter school personnel. Homeschool parents in this study also emphasized that their children interacted with same-age peers. The difference between homeschool and public school, in their opinion, was that the social range was not restricted to same-age peers, but rather a variety of age groups.

Study participants believed it was their responsibility to cultivate positive social development. The parents expressed the belief healthy social patterns and interactions should be modeled, monitored, and continually maintained. There needed to be intimately close parent-child relationship to ensure appropriate social behaviors and norms were taught and acquired. The homeschool parents in this study chose to retain the right to decide where, when, and how the child developed socially.

All of the study participants shared how homeschooling allowed their children to participate in a variety of activities based on sports, speech and debate, religious organizations, drama, music, and other community service groups. Furthermore, the homeschool parents perceived their children benefitted from charter school partnerships and homeschool co-ops as their children interacted with a rich variety of age-groups within those academic settings. DOROTHY appreciated the diversity that came from homeschool park meet-up days, co-op gatherings, and other extracurricular activities. In these settings, her children learned how to appropriately interact with people of all age groups.

Homeschool parent support groups. Homeschool parents in this study reached out to other parents to seek help and advice with the different stages and phases of raising their children. The parents sought out others who could empathize, and who had experienced and overcome similar challenges. They looked for common ground, friendship, and a reprieve from their struggles. Upon reflection, homeschool parents in this study credited and described homeschool support groups as safe places to ask questions and seek advice. They felt accepted and valued as members of a close-knit community. While some communication occurred via Facebook, the majority of study participants received support face-to-face with other homeschool

parents at park days, group field trips, and on other occasions wherever and whenever various sized groups of homeschool children gathered for academic and social reasons.

Enrichment activities. Homeschool parents regularly involved their children in extracurricular activities, Boy and Girl Scout meetings, sports practices and games, religious events, music lessons and dramatic performances. The study participants intentionally exposed their children to members of their community who shared similar interests, passions, and goals. The parents selected these activities for their children with the perception that their child would benefit socially and begin to develop the concept that they are not alone but a significant part of society. Each of the study participants rejected the notion that their child was socially isolated. Extracurricular activities, enriching friendships and developing social relationships, were described as significant and vital components of the learning environment.

Theme 4: Technology integration. This study found that participants integrated technology into the learning environment to support their children's academic development. Parents provided their children with regular opportunities to develop computer skills and access online resources for the purpose of constructing knowledge. In order to be successful in the technology-driven world, homeschool parents recognized their children needed guidance when exploring websites, researching topics of interest, evaluating the credibility of online resources, and establishing healthy boundaries for screen time and Internet safety.

Study participants developed their children's proficiency with Kindles, tablets, desktop computers and laptops, and other programmable devices. Online resources supplemented the learning environment, provided a virtual learning environment, or were accessed to network with charter school organizations, homeschool co-ops, or homeschool support groups. Online tutorials and courses filled in gaps, perceived by lack of qualifications or confidence to teach a particular

subject, and thus enabled study participants to create effective learning environments for their children.

Table 6

Frequency Distribution of Coded Passages Grouped by Subtheme: Technology Integration (N = 95)

Sub-Theme	Count
Supplemental Instructional Resources	49
Direct Instruction	24
Networking Resources	22

Supplemental instructional resources. This study found that homeschool parents provided their children with regular opportunities to use computers and handheld devices in the learning environment as tools to construct knowledge and explore areas of interest. Children used educational games and websites to develop a deeper understanding of Language Arts and Reading, Science, Mathematics, History and Geography, and Arts and Music. Homeschool parents assigned activities and projects to their children that involved the production of movies and video clips, as well as designing websites.

Direct instruction. This study found that homeschool parents enrolled their children in online courses, purchased interactive software packages, and downloaded curriculum for History and Geography, Computer Programming, and Mathematics. Online tutorials and virtual curriculum packages were also utilized to provide direct instruction for Mathematics to the study participants' children.

Networking resources. In this study, homeschool parents networked and received support from other homeschool parents, charter school organizations, and homeschool agencies. Study participants leveraged their social capital to find recommendations for beneficial educational websites, computer programs, and mobile applications. Charter school organizations utilized learning management systems (LMSs) to collaborate and communicate with homeschool families. Homeschool parents in this study received assessments, projects, and other assignments via the LMS platform. The study participants' children completed, electronically submitted, and corresponded with charter school personnel within the virtual learning environment.

Chapter Summary

This chapter explored the themes and subthemes that emerged from the data analysis of interviews with ten homeschool educators. The larger themes were those of Flexibility, Quality Time with the Family, Support from Like-Minded Individuals, and Technology Integration, each with multiple subthemes. The next chapter will draw conclusions about the findings, make recommendations for further study, and reflect on the study as a whole.

Chapter Five: Study Conclusions

Over the past four decades, a growing number of families have rejected public school institutions and decided to educate their children at home. Many of these homeschool families share teaching responsibilities with charter school organizations and homeschool co-ops. This study explored a variety of learning environments and instructional partnerships that homeschool parents utilized to teach their children. This multiple-case study examined parents' perspectives on how learning is fostered and the extent to which technology influenced the learning environment. Parents shared activities, resources, and strategies that were believed to best facilitate the academic and social development of their children. This final chapter reviews the key findings, discusses the conclusions, and offers recommendations for further study.

The central guiding research question for this dissertation was: How do homeschool parents structure the learning environment to educate their children?

The sub-questions were:

1. To what extent do computers and digital devices influence the learning environment?
2. How do homeschool parents cultivate and foster learning for their child?
3. What activities or resources do homeschool parents use to facilitate social development?
4. What activities or resources do homeschool parents use to facilitate academic development?
5. To what extent did parents receive support from homeschool co-ops, charter school partnerships, and other community organizations?

6. How does the learning environment influence bonding between parents and children in homeschool families?

Summary of Findings

Study participants collaborated with charter schools and homeschool co-ops to structure a flexible learning environment for their children's academic and social development. In terms of computers and digital devices, homeschool parents perceived proficiency as a necessary outcome. Computers with online access enriched the learning environment and brought opportunities that homeschool parents could otherwise not provide for their children. Computers and digital devices were especially beneficial for supporting math and literacy development. All of the study participants integrated technology into the learning environment. However, parents believed established boundaries were essential to guard against over-reliance and overuse of electronic devices. Establishing time limits and age-appropriate boundaries was recommended by more than half of the study participants.

In terms of cultivating and fostering learning for their children, reading books and taking field trips were crucial. Homeschool parents took frequent trips to the public library to supplement academic curriculum resources as well as to acquiring books to read for pleasure. Parents encouraged their children to explore areas of interest and to develop a love for reading. Study participants read books aloud to their children. While working with another sibling, parents assigned independent reading times to their other children.

Almost all of the study participants scheduled field trips, as a family or with other homeschool families, to connect the children's learning contextually with their community, country, and world. Travelling was instrumental for academic and social learning as the families interacted with curriculum and new people along their journeys. Field trips brought special

meaning, relevancy to the importance of learning, and motivated the children to dig deeper into areas of interest. The family excursions also provided opportunities for the children to experience a wide variety of people, occupations, and social settings.

In terms of academic and social development, study participants gathered with other homeschool families who were also associated with charter school and homeschool co-ops. Blending traditional homeschool model with public/private institutions generated positive academic and social benefits. Homeschool educators were pleased or satisfied with the level of quality education that their children received as the result of sharing instructional responsibilities with charter school organizations and homeschool co-ops. Study participants relied significantly on activities and resources provided by their charter school partnerships and homeschool co-ops.

Study participants encouraged their children to engage in extracurricular activities such as scouts, drama, music, mid-week church events, and community sports programs. While not necessarily the primary objective, these activities were perceived as essential components for the social development of the study participants' children. In these extracurricular settings, children learned to appreciate and accept people of varied age groups, worldviews, and belief systems.

With regards to familial bonding, the learning environment provided opportunities for study participants to build intimate, meaningful relationships based on trust and communication. Homeschool parents appeared to be reaping rewards from their efforts and sacrifices to educate their children in the homeschool environment. Study participants were encouraged by their social network and community to continue the practice of homeschooling.

Study Conclusions

The findings of this study lead to six conclusions. Each has implications and connections with the current published literature.

Conclusion 1: Homeschool families view computer proficiency as a necessary outcome for successful education. Access to online websites and programs enrich the learning environment for homeschool families. The ease of gaining access to resources indicate a shift in how homeschooling has changed. Parents clearly indicated the importance of using technology as a tool to support the learning environment. Regular access to educational programs and websites were considered essential for equipping their children for future academic success. This study's findings support the previous work of Clemens (2002), Tollefson (2007), Andrade (2008), Ray (2009), Valery (2011), Hanna (2012), and Alias et al. (2013).

Conclusion 2: Homeschool families routinely establish boundaries and set standards for computers, digital devices, and the Internet. The results from this study suggest that boundaries for effective homeschooling should be included in the literature as seen in the following quote from one of the homeschool parents:

WENDY: I am really hesitant to allow [my children] to spend too much time with digital devices. It's like pressing down like a wave and trying to keep it back as long as possible to give them more time to develop outside of digital things. In general, they can use technology for 30 minutes a day. They can earn more and sometimes if they don't use all of it they can save it up for another day. They can also lose their minutes if they make poor choices.

Excessive time and energy spent on electronic devices was viewed as unhealthy and hindered the development of social skills. All of the study participants monitored computer usage for entertainment purposes and enrichment activities.

Conclusion 3: Participating in field trips and encouraging reading activities cultivated and fostered learning for the homeschooled child. Several homeschool researchers support field trips as beneficial for social and academic development (Guterson, 1992; Hanna, 2012; Ray, 2002; Willingham, 2008). While resources may be more accessible virtually, this study demonstrates

the continued need for physical socialization. Homeschool parents credited field trips, museums, and road trips as catalysts for capturing their children's interests.

Conclusion 4: Gathering with other homeschool families via homeschool co-ops or charter school organizations provided rich, substantial opportunities for homeschool children's academic and social development. The results from this study indicate partnerships with homeschool co-ops, charter schools, and like-minded others to be an advantage compared to families that have homeschooled their children without support or to families whose children attended public or private schools. The majority of the literature affirms the positive association between homeschool families and their partnerships with homeschool co-ops and charter schools (Clemens, 2002; Gaither, 2009; Hill, 2000; Huerta et al., 2006; Klein & Poplin, 2008; Lines, 1999; Mayberry et al., 1995; McReynolds, 2007; Muldowney, 2011; J. Thomas, 2016; Topp, 2014; Van Galen, 1987; Vaughan, 2003).

Conclusion 5: The practice of homeschooling reinforced and developed strong familial bonding between parents and their children. Participants in this study reported homeschooling afforded a better quality of life for their families as a result of cultivating intimate, meaningful relationships with their children. Research has shown homeschooling families value opportunities to cultivate intimate, meaningful relationships with their children (Kerns, 2015; Medlin, 2000; Scheps, 1999).

Conclusion 6: The inherent flexibility of homeschooling enabled parents to provide individualized education plans for each of their children. Researchers and experts assert homeschool educators have the freedom to develop and adapt the learning environment to meet the specific educational needs of homeschooled students (Anthony, 2009; Gusman, 2006; Jolly et al., 2012; Kunzman, 2009; Meighan, 1997; Patterson et al., 2007; Williams, 1991).

Implications of the Study

This study adds to the limited available body of research on how homeschool families use technology. The profiles of the study participants describe the dynamics between homeschool families and partnerships with charter school organizations and homeschool co-ops.

Furthermore, this study reaffirms existing homeschool literature regarding flexible learning environments with individual instruction, close parent-child relationships cultivated with quality time, and homeschooling, as a practice, is an effective alternative to public education.

There are several implications to this study. First, the findings that emerged from the data suggest that homeschool families are willing to collaborate with other educational organizations and this agrees with what experts and researchers have stated (Clemens, 2002; Gaither, 2009; Hill, 2000; Huerta et al., 2006; McReynolds, 2007; Klein & Poplin, 2008; Lines, 1999; Mayberry et al., 1995; Muldowney, 2011; J. Thomas, 2016; Topp, 2014; Van Galen, 1987; Vaughan, 2003). The literature has also shown homeschooling parents are dedicated and willing to accept a significant role in raising, educating, and socializing their children (Gaither, 2008; Hadeed, 1991; Ray, 2001). Some homeschool families may not be attracted to the idea of returning to the public school system. Charter schools and traditional public schools alike should be encouraged to provide a variety of learning environment options for homeschooling families and invite homeschool families into the transformational changes needed to meet the needs of future citizens. In so doing, public schools would increase part-time enrollment and revenue with hybrid programs and homeschool partnerships. Education policymakers could propose changes in how charter schools and traditional public schools are authorized, funded, and governed to stimulate cooperation and participation with homeschool families and homeschool co-ops.

Second, the findings from this study indicate integrating technology into the learning environment positively affects mathematics and literacy development for homeschool students. Studies have shown homeschool families are willing to utilize technology tools to support and enrich the learning environment (Alias et al., 2013; Andrade, 2008; Clemens, 2002; Hanna, 2012; Ray, 2009; Tollefson, 2007; Valery, 2011). Homeschool parents and researchers should continue to explore which websites and applications are most effective for supporting individualized, self-paced learners. A list of top educational websites could be published and shared by the United States Department of Education, National Alliance for Public Charter Schools, and homeschool support and advocacy groups. A deeper understanding of the technological affordances is needed and potentially could impact learning regardless of the amount of teacher training or class size in any learning environment.

Recommendations for Further Research

Based on the findings that emerged from the data, possible areas for further research include the following:

1. This study was conducted in San Diego County, California. Each of the study participants shared teaching responsibilities with a homeschool co-op, a charter school organization, or both. Each of the families clearly indicated the value of receiving support from homeschool co-ops, charter schools, and like-minded others. One recommendation for further research would be to replicate this study with homeschool families living in other counties in California or in other states where charter school structures and homeschool regulations are different.

2. In this study, homeschool educators shared teaching responsibilities with homeschool co-ops and charter school organizations. Further ethnographic research should be conducted to observe the shared teaching responsibilities in greater detail.
3. Participants in this study seemed satisfied with their children's academic and social development and perceived support from homeschool co-ops and charter school organizations was sufficient. The body of literature suggests that homeschool partnerships leads to more gratifying experiences from the parents' perspective with regards to with their children's academic and social development. Other phenomenological studies focusing on the level of support / amount of shared instructional hours would give insight on how best to structure hybrid homeschool programs.
4. The homeschool educators in this study all reported having strong relational bonds with their children. Parents want their children to develop in a safe environment, acquire positive character traits, and keep close family ties. There is a need to research and identify what strategies and practices best cultivate strong familial relationships.
5. Homeschool educators in this study recognized Internet websites and computer programs to be helpful for developing proficiency in mathematics and reading. Homeschool parents value the opportunities that computers and digital devices provide for individualized instruction. Further case study investigations should be conducted to examine best practices for integrating technology into the homeschool learning environment.
6. This study focused on the homeschool parents' perspective of the learning environment. Other phenomenological studies could be conducted focusing on the charter school or the

homeschool co-op's point of view. Traditional and private schools might also benefit from future studies that shed light on homeschool partnerships.

7. A longitudinal study could be structured to observe what happens to the homeschool parents' perceived level of power, control, and influence as they share teaching responsibilities with charter schools and homeschool co-ops.
8. In this study, homeschool educators often learned alongside with their children and also grouped their children together to provide instruction. Further research is needed to explore the social dynamics when learning occurs collaboratively as a family unit.
9. Finally, more research is needed to examine how online interaction and communication has impacted the sharing of teaching responsibilities between homeschool families, homeschool co-ops, and charter school organizations.

Closing Comments

The results of this study confirm the practice of homeschooling, with parents partnering with homeschool co-ops and/or charter school organizations, can provide a quality individualized learning plan for each child. Utilizing flexible schedules and extending the boundaries beyond a traditional classroom setting allows learning to occur in a nurturing environment infused with real-life experiences. Integrating technology into the homeschool environment allows access to vast resources of instructional materials. Homeschool partnerships offer a wide range of social opportunities for children to interact with same-age peers, network with community members who share common interests, and develop healthy relationships with siblings and parents. The combined talents, affordances, and benefits of charter schools, homeschool co-ops, and other like-minded educators synergistically enhance the homeschooling experience as parents raise, develop, and mentor their children to become productive citizens.

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APPENDIX A

Recruitment Letter

Sample Invitation to Participate in Study

Dear Potential Study Candidate,

My name is Joseph Sabol and I am a Pepperdine University doctoral student conducting dissertation research on homeschool parents who use digital devices and the Internet to teach their children. I would like to invite you to participate in my study and share your experiences with the homeschool community at large.

If you choose to be involved, I will ask that you to participate for an estimated 90 minutes that includes:

- reviewing a letter of informed consent so you will be aware of any potential risks from the study and know your rights;
- providing a brief overview of your family's homeschool learning environment in an online survey (approximately 20 minutes);
- and sharing your homeschool perspective in a recorded 60-minute voice interview;

Your family's involvement will be completely anonymous as no personal, identifying information will be included in any of my reports. Some descriptive data, however, will be included but all individual and family names will be replaced with pseudonyms.

Please contact me by email or phone if you have any questions about the study or concerns about the nature of your participation.

Sincerely,

Joseph Sabol

APPENDIX B

Informed Consent Form

INFORMED CONSENT FOR PARTICIPATION IN RESEARCH ACTIVITIES

Principal Investigator: Joseph Sabol, Pepperdine University

Title of Project: Homeschool Parents' Perspective of the Learning Environment

1. By scheduling an interview, I agree to participate in the research study being conducted by Joseph Sabol under the direction of Dr. Jack McManus.
2. The overall purpose of this research is to explore the homeschooling learning environment.
3. My participation in this study will consist of completing an online survey and one voice interview lasting approximately a total time of 90 minutes. The interview will be recorded and shall be conducted via a means of voice communication to be designated by me.
4. I understand that the possible benefits to myself or society from this research are:
 - a better appreciation of how learning environments are structured by homeschool parents, homeschool co-ops, and charter school-homeschool partnerships
 - a deeper understanding of how virtual learning environments might transform academic and social development experiences for homeschooled children
5. I understand that the risks and discomforts associated with this research are minimal due to the non-intrusive nature of the study.
6. I understand that there is no requirement for recovery time after each portion of the study.
7. I understand that I may choose not to participate in this research by simply not completing the online survey or the voice interview.
8. I understand that my participation is voluntary and that I may discontinue with the project or activity at any time without penalty or retribution of any kind. If I withdraw before beginning the interview, my data collected from the survey will be deleted from the study.

9. I understand that the investigator(s) will take all reasonable measures to protect the confidentiality of my records and my identity will not be revealed in any publication that may result from this project. The confidentiality of my records will be maintained in accordance with applicable state and federal laws. Under California law, there are exceptions to confidentiality, including suspicion that a child, elder, or dependent adult is being abused, or if an individual discloses an intent to harm him/herself or others.
10. I understand that the investigator, Joseph Sabol, is willing to answer any inquiries I may have concerning the research herein described. I understand that I may contact Dr. Jack McManus if I have any other questions or concerns about this research. If I have any questions about my rights as a research participant, I understand that I can contact Dr. Judy Ho, Chairperson of the Graduate and Professional Schools IRB, Pepperdine University.
11. I will be informed of any significant new findings developed during the course of my participation in this research, which may have a bearing on my willingness to continue in the study.
12. I understand that in the event of physical injury resulting from the research procedures in which I am to participate, no form of compensation is available. Medical treatment may be provided at my own expense of my health care insurer, which may or may not provide coverage. If I have questions, I should contact my insurer.
13. I understand to my satisfaction the information regarding participation in the research project. All my questions have been answered to my satisfaction. I have received a copy of this informed consent form, which I have read and understand. I hereby consent to participate in the research described above.

The principal investigator, Joseph Sabol, acknowledges the consent of the study participant after the research procedures have been explained, any questions have been answered, and the online survey has been completed.

Study participants may click on the embedded link (see below), which will open up an online survey via Google Forms.

Access Code: *****

Link to Online Survey: <http://bit.ly/2IUDMDc>

APPENDIX C

Homeschool Parent Survey Instrument

Part 1: Homeschool Learning Environment Questions

1. What type of homeschooling model(s) have your children experienced? Please select all that apply.
 - ☐ Charter school-homeschool partnership
 - ☐ Homeschool co-op support group
 - ☐ Homeschool where I am the primary educator
 - ☐ Unschooling model where my child directs most, if not all, learning
 - ☐ Other

2. Why did you choose to homeschool your children? Please select all that apply.
 - ☐ Religious values
 - ☐ Undesirable academic outcomes found elsewhere
 - ☐ Undesirable social influences found elsewhere
 - ☐ Safety of learning environment (drugs, gangs, etc.)
 - ☐ Child with special needs
 - ☐ Other

3. What types of digital devices are used for your child's learning environment? Please select all that apply.
 - ☐ Personal computer or laptop
 - ☐ iPad or tablet
 - ☐ Smartphone
 - ☐ Wearable device
 - ☐ Television
 - ☐ Other

4. What types of online resources are used to support homeschool instruction? Please select all that apply.
 - ☐ Websites recommended from a search engine
 - ☐ Social media (Facebook, Twitter, etc)
 - ☐ Tutoring or self-paced curriculum
 - ☐ Virtual academy
 - ☐ Other

5. Who is the primary person responsible for providing instruction for your children?
- ☐ Mom
 - ☐ Dad
 - ☐ Grandparent
 - ☐ Child
 - ☐ Charter school staff
 - ☐ Other
6. From your perspective, how would you rate your own skills with using computers and digital devices to access virtual learning environments?
- ☐ Novice
 - ☐ Intermediate
 - ☐ Proficient
 - ☐ Advanced
 - ☐ Expert
7. From your perspective, how would you rate your oldest child's skills with using computers and digital devices to access virtual learning environments?
- ☐ Novice
 - ☐ Intermediate
 - ☐ Proficient
 - ☐ Advanced
 - ☐ Expert
8. Are there any other homeschool families that you might recommend for this study?

Part 2: Demographics

9. What is your gender?

- ☐ Female
- ☐ Male

10. What is the zip code of your address?

11. How many children do you homeschool?

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5 or more

12. How long have you homeschooled your children?

- ☐ This is my first year
- ☐ Between 2-3 years
- ☐ Between 4-5 years
- ☐ Between 6-7 years
- ☐ 8 years or more

13. Please select your preferred methods of voice communication for the interview portion of this study. Next to each item checked, please enter the appropriate numbers, and/or userID

- ☐ Telephone
- ☐ Google Hangout
- ☐ Skype
- ☐ Other

14. Do you have any concerns about your participation in this study?

- ☐ No
- ☐ Yes (see text box for my answers)

APPENDIX D

Homeschool Parent Interview Protocol

Homeschool Parent Interview Protocol

Times of Interview:

Dates of Interview:

Method of Interview:

Interviewer:

Interviewee Identity Code:

Opening narrative: Thanks for agreeing to be part of this case study research on homeschooling. This interview should take approximately 60 minutes, in which I will ask you questions about your family's homeschool experiences. While the interview is being recorded, I want to remind you that our discussions will remain strictly confidential and all information shared will be only used for the completion of this study.

All of you previously signed a consent form that laid out all of your rights under this study and any possible risks of the study. Would anyone like me to review any of the content from that consent form?

(If yes, review the requested items. If no, then continue)

1. Please describe your overall homeschool experience.
 - What are your long-term goals for your child's education?
 - What are some of the challenges that you face while homeschooling?
 - How has homeschooling affected the relationship between your child and the other members of your family?

2. What is your homeschooling style?
 - What does a typical day or week look like for your homeschool schedule?
 - How do you help foster & cultivate learning for your child?

3. Describe the learning environment in your home.
 - Please tell me your background using digital devices and how that has influenced the learning environment.
 - What types of online resources do you have access to and that are beneficial for teaching your child?
 - What kinds of activities or resources do you use to help facilitate your child's social development?
 - What kinds of activities or resources do you use to help facilitate your child's academic development?
4. What other types of support do you receive from others, including family, friends, and other homeschoolers?
5. Are there any other homeschool families that you might recommend for this study? If so, can you briefly introduce them to this study and ask if I might contact them?

APPENDIX E

IRB Approval



Pepperdine University
24255 Pacific Coast Highway
Malibu, CA 90263
TEL: 310-506-4000

NOTICE OF APPROVAL FOR HUMAN RESEARCH

Date: June 13, 2016

Protocol Investigator Name: Joseph Sabol

Protocol #: 16-05-288

Project Title: Online Support for Homeschool Parents Teaching Algebra: A Multiple Case Study

School: Graduate School of Education and Psychology

Dear Joseph Sabol:

Thank you for submitting your application for exempt review to Pepperdine University's Institutional Review Board (IRB). We appreciate the work you have done on your proposal. The IRB has reviewed your submitted IRB application and all ancillary materials. Upon review, the IRB has determined that the above entitled project meets the requirements for exemption under the federal regulations 45 CFR 46.101 that govern the protections of human subjects.

Your research must be conducted according to the proposal that was submitted to the IRB. If changes to the approved protocol occur, a revised protocol must be reviewed and approved by the IRB before implementation. For any proposed changes in your research protocol, please submit an amendment to the IRB. Since your study falls under exemption, there is no requirement for continuing IRB review of your project. Please be aware that changes to your protocol may prevent the research from qualifying for exemption from 45 CFR 46.101 and require submission of a new IRB application or other materials to the IRB.

A goal of the IRB is to prevent negative occurrences during any research study. However, despite the best intent, unforeseen circumstances or events may arise during the research. If an unexpected situation or adverse event happens during your investigation, please notify the IRB as soon as possible. We will ask for a complete written explanation of the event and your written response. Other actions also may be required depending on the nature of the event. Details regarding the timeframe in which adverse events must be reported to the IRB and documenting the adverse event can be found in the *Pepperdine University Protection of Human Participants in Research: Policies and Procedures Manual* at community.pepperdine.edu/irb.

Please refer to the protocol number denoted above in all communication or correspondence related to your application and this approval. Should you have additional questions or require clarification of the contents of this letter, please contact the IRB Office. On behalf of the IRB, I wish you success in this scholarly pursuit.

Sincerely,

Judy Ho, Ph.D., IRB Chairperson

cc: Dr. Lee Kats, Vice Provost for Research and Strategic Initiatives



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Mr. Brett Leach, Regulatory Affairs Specialist